118-J

Digitized by the Internet Archive
in 2022 with funding from
University of Toronto

https://archive.org/details/economicannalist2022cana

CA1 DA 21-E11

Gov. Doc
Can
Ag

Canada. Agriculture, Dept. of

THE
ECONOMIC ANNALIST

A

FEBRUARY 1950
to December 1952

VOL. XX No. 1
to VOL. 22

562792
8553

DEPARTMENT OF AGRICULTURE
OTTAWA, CANADA

LIBRARY
MAR 18 1950
UNIVERSITY OF TORONTO

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS
MARKETING SERVICE, ECONOMICS DIVISION
DEPARTMENT OF AGRICULTURE, OTTAWA

Published by Authority of the Right Hon. James G. Gardiner, Minister of Agriculture

INDEX --- Volume XX, 1950

PAGE

Agriculture at Torquay .... *Margaret I. Dunbabin* 83

Agricultural Products, Marketing Margins of Selected...... *F. M. Schrader* 101

Alberta, Farm Business in the Warner-Milk River District of Southern .... *S. Mysak* 34

Alberta, Livestock Feeding in .... *C. M. Kline* 86

Apple Orchard Survey in the Okanagan Valley, British Columbia, 1948-49 .... *H. W. Trevor* 30

Changes on Eastern Ontario Dairy Farms between 1937 and 1947........ .... *J. A. Dawson* 45

Co-operative Associations in Canada, 1948, Functions of.... *J. E. O'Meara* 60

Co-operatives in Canada, Years of Incorporation or Registration of........ .... *J. E. O'Meara* 39

Co-operatives, 1948, Size of Membership in Canadian........ *J. E. O'Meara* 92

Co-operatives, 1948, Volume of Business of Canadian........ *J. E. O'Meara* 105

Current Federal Agricultural Programs Affecting Prices of Farm Products.. 118

Dairy Farms between 1937 and 1947, Changes on Eastern Ontario........ .... *J. A. Dawson* 45

Dairying, Trends in Canadian........................ *M. Rachlis* 62

Economic Annalist—Twenty Years, The 3

Economics Division, Canadian Department of Agriculture, Completes Twenty Years of Service........................ *J. F. Booth* 4

Economics Division, 1930 to 1949, Selected List of Published Material Contributed by Members of the 15

Economic Research and Information, Two Decades of .... *J. Coke* 10

77087

PAGE

Economic Situation, The—April 27
—June 51
—August 75
—October 99
—December 123

Egg Prices, Seasonal Variation in ....*G. Murray and G. Woollam* 67

Farm Business in the Gilbert Plains and Sifton Areas of Manitoba, 1949, The ....*J. G. Mackenzie and T. O. Riecken* 137

Farm Business in the Warner-Milk River District of Southern Alberta ....*S. Mysak* 34

Financing Farm Improvements 77

Functions of Co-operative Associations in Canada, 1948 .....*J. E. O'Meara* 60

Historical Development of the Eastern Irrigation District....*L. K. Dunsmore* 55

Irrigated Areas of Alberta, Recent Trends in Farming in ....*H. K. Scott* 113

Irrigation District, Historical Development of the Eastern..*L. K. Dunsmore* 55

Land Use in the Elbow-Saskatoon Area of Central Saskatchewan...*Gordon Haase* 80

Livestock Feeding in Alberta ....*C. M. Kline* 86

Manitoba, 1949, The Farm Business in the Gilbert Plains and Sifton Areas of ....*J. G. Mackenzie and T. O. Riecken* 137

Marketing Margins of Selected Agricultural Products......*F. M. Schrader* 101

Measures of Relationship between Hog and Feed Prices....*F. M. Schrader* 92

Okanagan Valley, British Columbia, 1948-49, Apple Orchard Survey in the ....*H. W. Trevor* 30

Ontario Tobacco Farm Organization and Selected New Belt Production Problems ....*William E. Haviland* 127

Poultry Meat in the Montreal Market, Seasonal Variation in the Prices of ....*G. Woollam and G. Murray* 134

Prices, Measures of Relationship between Hog and Feed....*F. M. Schrader* 92

Prices of Farm Products, Current Federal Agricultural Programs Affecting 118

Recent Trend of Land Use Studies in Saskatchewan, The......*J. W. Clarke* 40

Recent Trends in Farming in Irrigated Areas of Alberta........*H. K. Scott* 113

PAGE

Review of Literature:

April —Economic Bulletin for Europe (United Nations Report) 47

—Farm Housing in the Northeast by Glenn H. Beyer....... 48

—Methods of Financing Economic Development in Under-Developed Countries (United Nations Report) 47

—Recent Developments in the World Economic Situation (United Nations Report) 47

—Statistical Yearbook, 1948 (United Nations Report)...... 47

June —Catalogues and Counters by Boris Emmet and John E. Jeuck 71

—The Dynamics of Business Cycles by Jan Tinbergen and J. J. Polak 71

—Economic Survey of Latin America, 1948 (United Nations Report) 69

—National and International Measures for Full Employment (United Nations Report) 69

—Relative Prices of Exports and Imports of Under-Developed Countries (United Nations Report) 69

August —Economic Development in Selected Countries, Plans, Programmes and Agencies (United Nations Report).... 95

—Readings on Agricultural Policy (Assembled and published by the American Farm Economic Association) 95

—Review of International Commodity Problems, 1949 (United Nations Report) 95

—A Survey of Contemporary Economics, edited by Howard S. Ellis 95

October —Catalogue of Economic and Social Projects, 1950 (United Nations Report) 120

—De Practijk van de nieuwe Landbouwpolotiek by F. Van De Wiel and LeMair 120

—Economic Survey of Europe in 1949 (United Nations Report) 120

December—Agricultural Requisites in Latin America (United Nations Report) 144

—Economic Bulletin for Europe (United Nations Report)... 143

—Implementation of Full Employment Policies (United Nations Report) 143

—Proceedings of the United Nations Scientific Conference on the Conservation and Utilization of Resources..... 142

—Trade and Agriculture by D. Gale Johnson 142

Saskatchewan, Land Use in the Elbow-Saskatoon Area of Central.......... ....*Gordon Haase* 80

PAGE
Saskatchewan, The Recent Trend of Land Use Studies in .....*J. W. Clarke* 40
Seasonal Variation in Egg Prices..............*G. Murray and G. Woollam* 67
Seasonal Variation in the Prices of Poultry Meat in the Montreal Market ....*G. Woollam and G. Murray* 134
Selected List of Published Material Contributed by Members of the Economics Division, 1930 to 1949 15
Size of Membership in Canadian Co-operatives, 1948 ....*J. E. O'Meara* 92
Some Economic Aspects of Tobacco Farming in Ontario....*W. E. Haviland* 107
Tobacco Farm Organization and Selected New Belt Production Problems ....*William E. Haviland* 127
Torquay, Agriculture at ....*Margaret I. Dunbabin* 83
Trends in Canadian Dairying ....*M. Rachlis* 62
Two Decades of Economic Research and Information ....*J. Coke* 10
Volume of Business of Canadian Co-operatives, 1948 ....*J. E. O'Meara* 105
Years of Incorporation or Registration of Co-operatives in Canada........ ....*J. E. O'Meara* 39

OTTAWA: Printed by EDMOND CLOUTIER, C.M.G., O.A., D.S.P., Printer to the King's Most Excellent Majesty, 1951.

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS

February 1950 Vol. XX, No. 1

CONTENTS

Page

The Economic Annalist—Twenty Years 3

Economics Division, Canadian Department of Agriculture, Completes Twenty Years of Service .... *J. F. Booth* 4

Two Decades of Economic Research and Information .... *J. Coke* 10

Selected List of Published Material Contributed by Members of the Economics Division, 1930 to 1949 15

MARKETING SERVICE, ECONOMICS DIVISION

J. F. BOOTH, Associate Director FRANK SHEFRIN, Editor

Published by Authority of the Right Honourable James G. Gardiner, Minister of Agriculture

ANNUAL AND MONTHLY INDEX NUMBERS

Wholesale Prices, Farm Prices and Living Cost Indexes

Year	Wholesale Prices 1935-39=100			Farm Prices of Agricultural Products 1935-39=100	Commodities and Services used by Farmers (a) 1935-39=100		Cost of Living 1935-39=100	
	Farm Products (b)	Field Products (c)	Animal Products (d)	(e)	Equipment and Materials (f)	Eleven Factor Index (g)	Farm Living Costs (a) (h)	Urban Living Costs (i)
1913	...	...	...	...	85·4	...	80·1	79·1
1914	...	...	...	...	90·2	85·3	82·3	79·7
1915	...	...	...	...	96·9	91·6	86·5	80·7
1916	...	...	...	...	101·7	100·5	93·7	87·0
1917	...	...	...	...	140·7	140·5	111·5	102·4
1918	...	...	...	...	164·1	160·2	131·1	115·6
1919	...	...	...	...	169·1	167·9	143·0	126·5
1920	...	...	...	...	190·1	186·5	171·3	145·4
1921	...	...	...	...	147·4	152·5	139·9	129·9
1922	...	...	...	...	124·6	134·1	127·9	120·4
1923	...	...	...	...	118·3	130·6	128·3	120·7
1924	...	...	...	...	122·3	131·9	125·5	118·8
1925	...	...	...	...	123·2	131·8	123·9	119·8
1926	144·4	158·5	130·2	...	119·9	130·6	121·1	121·8
1927	138·6	149·4	127·8	...	119·9	131·2	119·8	119·9
1928	136·3	134·3	138·2	...	118·3	129·3	118·5	120·5
1929	140·8	137·2	144·4	...	117·6	127·9	117·3	121·7
1930	119·5	105·8	133·3	...	105·6	117·0	113·7	120·8
1931	78·9	65·0	92·7	...	92·2	100·9	103·9	109·1
1932	65·5	60·4	70·5	...	89·3	93·3	97·8	99·0
1933	69·3	69·3	69·2	...	88·8	89·8	95·8	94·4
1934	83·5	80·5	86·5	...	96·8	95·5	97·9	95·6
1935	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	165·3	160·4	170·2	184·2	125·9	152·1	123·2	119·5
1946	177·0	172·9	181·2	200·8	128·0	157·0	127·1	123·6
1947	189·7	179·1	200·2	212·5	139·5	170·4	138·3	135·5
1948	229·6	195·6	263·7	252·6	173·1	196·9	162·8	155·0
1949	(j) 225·2	(j) 184·9	(j) 265·4	251·3	180·3	201·8	173·2	160·8
1949								
Jan	232·2	187·7	276·7	257·7	180·3	198·3	171·8	159·6
Feb	226·2	186·1	266·3	253·2	...	...	...	159·5
Mar	224·2	183·7	264·7	251·5	...	...	...	159·2
April	224·5	184·9	264·1	250·9	180·4	202·9	173·3	159·3
May	225·2	186·1	264·3	250·9	...	...	...	159·5
June	230·2	190·5	269·9	254·7	...	...	...	160·5
July	231·4	193·4	269·3	253·9	...	...	...	162·1
Aug	225·9	182·4	269·3	253·4	180·2	204·2	174·5	162·8
Sept	222·6	182·0	263·3	249·8	...	...	...	162·3
Oct	219.7	181.9	257.6	247·1	...	...	...	162·2
Nov	222·0	180·6	259·3	245·9	...	...	...	161·7
Dec	219·9	179·8	259·9	246·8	...	...	...	161·5

(a) Revised July, 1948, by The Dominion Bureau of Statistics.

(b) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo). Ottawa, Monthly. Wholesale prices of products of Canadian farms.

(c) Ibid (b). Wholesale prices of grains, hay, tobacco and potatoes.

(d) Ibid (b). Wholesale prices of animals and animal products.

(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo). Ottawa. Monthly.

(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo). Ottawa, Jan., Apr., and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.

(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.

(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.

(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

(j) Preliminary.

THE ECONOMIC ANNALIST— TWENTY YEARS

Volume I, Number 1, was issued in January 1931. Under the title *A New Publication, The Economic Annalist* was introduced to its readers as follows:

> With this issue the Agricultural Economics Branch of the Department of Agriculture introduces a new publication which it is hoped will become a permanent monthly feature. While the editorial policy and general make-up of the new organ are subject to modification, it is expected that brief contributions of a research character will be included in each issue and that current happenings of an economic nature affecting agriculture, such as the activities of farmers' associations will be reviewed. Attention will be centred upon Canadian activities, federal and provincial, but not to the exclusion of information from a wider field.
>
> The new publication should serve as a co-ordinating medium in a field which is not already covered. The co-operation of provincial and local agencies in making the venture a success is earnestly solicited. Criticisms, suggestions and contributions will be appreciated.
>
> Those desiring this publication may obtain same free upon request to the Agricultural Economics Branch, Department of Agriculture, Ottawa.

The first issue included a Message from the Minister of Agriculture, and articles entitled "Farm Production Policies Need Revision", "Apple Production in the Annapolis Valley" and "Farm Accounts".

The Economic Annalist has, in the twenty years, appeared as a monthly, a bimonthly and a quarterly, and is now a bimonthly again. It is starting its twentieth year with a new cover. The general policy as first stated has, on the whole, been maintained, with major emphasis on reports of research conducted by the Economics Division. Other divisional publications, such as *The Current Review of Agricultural Conditions in Canada,* and *Agriculture Abroad,* have assumed the task of dealing with current happenings at home and abroad that are of interest to farmers.

This issue is being devoted to a review of the activities of the Economics Division during the past twenty years. Dr. J. F. Booth, who has been Head of the Division since its inception, outlines the general development of agricultural economics in Canada prior to the establishment of the Economics Division, and developments since 1930.

Mr. J. Coke, who has been editor of *The Economic Annalist* from 1931 until 1947, reviews the growth of research and service activities of the Division.

A selected list of Division publications published between 1930 and 1949 has been included. Where possible, articles written by members of the Economics Division and published in professional journals have been included. Every effort has been made to have this list complete. However, it is more than possible that omissions will be discovered. The bibliography indicates the scope of research and service activities of the Economics Division. However, it does not include many articles of a popular nature written by members of the Division for farm magazines and newspapers.

ECONOMICS DIVISION, CANADIAN DEPARTMENT OF AGRICULTURE, COMPLETES TWENTY YEARS OF SERVICE

J. F. Booth

The personnel of the Economics Division, Marketing Service, Department of Agriculture, Ottawa, recently celebrated the twentieth anniversary of the establishment of the Division. On that occasion the writer reviewed some of the developments that preceded the addition of economic research to the functions of the Department. The decision to make this issue of *The Economic Annalist* an anniversary number affords an opportunity of enlarging upon this background information and for telling something about how the Division functions today.

The Economics Division, or to give it its original title, Agricultural Economics Branch, came into existence on October 1, 1929 as the ninth Branch of the Department of Agriculture. With the consolidation of these various units into four Services in 1937, Economics became a part of the Marketing Service.

Prior to the Federal Department's recognition of agricultural economics as a special field of activity some economic research had been undertaken in other branches of the Department at Ottawa. There had also been some development in the provinces, particularly at the universities and colleges of agriculture.

Before the first world war a number of universities and colleges of agriculture had begun to relate instruction in general economics to the problems and experiences of farmers. In some instances instruction took the form of courses in agricultural economics. At the Ontario Agricultural College, for instance, courses in rural economics and agricultural co-operation were being developed during this period. At Macdonald College a course in farm management was given as early as 1912.

In 1913 the Manitoba Agricultural College appointed a lecturer in English and agricultural economics and two years later established a Department of Farm Management and Co-operative Marketing. The Ontario Agricultural College appointed a Director of Farm Management Surveys in 1917 and formed a Department of Farm Economics in 1920. Between 1912 and the middle 1920's most colleges of agriculture established courses in farm management and some universities included agricultural economics among their courses of instruction.[1]

Economic Research in Government Departments.—It is more difficult to trace the emergence of agricultural economics in departments of governments. Although formal recognition of the subject as a special field of activity was not accorded by the Federal Department of Agriculture until 1929, consideration of the economic aspects of agriculture dates from a much earlier period. Some will say that governments have always been concerned with economics—that all research, regulatory and educational effort undertaken for agriculture has an economic aspect in that it contributes to lower cost and increased income. To a considerable extent that is true.

Cost studies based on experimental data were conducted by the various Dominion experimental farms almost from the time the first of these was established in 1886. Such studies are still carried on, particularly in relation to the work of the illustration stations. In the early 1920's the tools and techniques of the economist were used by the Experimental Farms Service in conducting certain farm surveys.

---

[1] Coke, J. "The Development of Agricultural Economics in Canada". (In three parts) *The Economic Annalist.* August, September and December, 1931.

In the Federal Department's efforts relating to marketing the reduction of costs has always received consideration. Much of the early activity was of the experimental type. Thus, the Department in the 1890's began the operation of cheese factories and creameries. These were run for the purpose of experimenting with costs, techniques and quality of product. Similarly, certain of the branches helped to organize associations to market farm products. These and many other activities were economic in the sense that they contributed toward lower production and marketing costs.

When we speak of "agricultural economics," however, we mean the science or "department of systematized knowledge" that goes by that name. We refer to a particular method of studying farm businesses, of analysing the activities of marketing agencies or of weighing the merits of a proposed agricultural policy. Although, as stated, some research of an economic nature had been undertaken at the national level prior to 1929, there was little development in what might be termed the science or specialized field of agricultural economics.

In the provinces, economic problems, particularly in relation to marketing, became significant toward the close of the last century. Farmers then began to organize co-operative societies and as interest in marketing increased, provincial governments added marketing experts to their staffs and created special divisions in their departments of agriculture to deal with marketing and with agricultural co-operation. In 1912, British Columbia appointed two Markets Commissioners to the Horticultural Branch of the Department of Agriculture. The following year Saskatchewan established a Co-operative Organization Branch which later became the Co-operation and Markets Branch. Ontario followed the western lead in 1914, and during the next ten years various other provinces added divisions to deal with marketing. The creation of these services represented a definite recognition of the existence of economic problems. The economic approach to the study of these problems at the provincial level is traceable to these developments and to those that emerged in relation to production and marketing as a result of the first World War.

Organization at National Level.—The various activities to which reference has been made, particularly those at the provincial level, led to requests that the Federal Government provide for research in agricultural economics, particularly in co-operative marketing. Some urged the establishment of a division or branch to deal with agricultural co-operation. Others, including co-operative leaders and officials of provincial departments of agriculture, suggested a broader approach. Encouraging the demands that were being made on Ottawa at that time was the fact that the United States Bureau of Agricultural Economics was conducting an economic study of co-operative activity in Canada.

The suggestion that something be done by the Federal Department met with a favourable reception from the Honourable W. R. Motherwell, Minister of Agriculture. Mr. Motherwell had been a leader in the farmers' movement in Western Canada at the turn of the century. Later, as provincial Minister of Agriculture for Saskatchewan he was responsible for the formation of the Co-operative Organization Branch in the department of agriculture.

The nature and scope of the activities that should be included in a federal division was a provoking question in 1927. An attempt to organize as a co-operative branch was unsuccessful in 1928. Later that year and during the early part of 1929, discussion and representations focussed on the need for an agency with authority and resources sufficient to deal with economic problems on a broad basis. This culminated in the establishment of the Agricultural Economics Branch on October 1, 1929.

An outline of the matters or fields of research with which the new Branch, or Division as it is now called, might be concerned was presented in June

1930[1]. It set forth the following: (1) farm management, (2) land problems, (3) credit, finance and taxation, (4) transportation, (5) marketing, (6) agricultural co-operation, (7) statistics, (8) agricultural history, (9) rural sociology. The order of presentation was not designed to suggest degrees of importance.

Differences in Research Programs.—It may be of interest at this point to refer to certain differences between the research program of an agricultural economics division and that of the economics divisions of some, if not most, other departments of government. Much of the research in agricultural economics is done directly *for* farmers and for agencies engaged in the handling of farm products. For instance the agricultural economist studies the business records and experiences of hundreds of farmers to provide these same farmers and others with answers to the practical problem of how to reduce cost and increase income. He studies the experiences of settlers in pioneer regions to determine how much land must be brought under cultivation to provide enough income to make a settler self-sufficient, and how long it will take. He studies and makes known the costs and processes involved in marketing farm products to assist in more efficient distribution, and to acquaint farmers and others with the services involved.

The farm economists, on this continent at least, came by this recognition of responsibility quite naturally. They found that they had in a sense fallen heir to a custom and a pattern of procedure established by governments and by their co-workers in the natural sciences.

Governments on this continent had for generations supported agricultural research, and research workers in the natural sciences had applied their knowledge and skill to the problems caused by insects, disease, weeds, and the like. They had also by experimentation and demonstration sought ways of improving farming practices and of reducing costs. These things were done *for* farmers and at the farm level. Farmers had thus come to think of the agricultural scientist, the district agriculturist and others as people working for them on their particular problems. When the agricultural economist appeared on the scene he found that he was expected to apply the tools of economic research in the same direct manner to the problems falling within his field.

While this kind of research dominated the program of the Agricultural Economics Division during its initial development, and is still an important activity, research having a somewhat different purpose has also been undertaken. This includes research in what might be called the semi-policy and policy fields. In some instances the purposes of research overlap. For example, studies of pioneer and "back-to-the-land" settlement experiences may be intended to provide information of direct benefit to settlers or prospective settlers and also to help governments to develop and administer sound settlement schemes. A study of the British market for Nova Scotia apples, intended primarily to assist farmers and marketing agencies in better meeting the demands of that market, later provided the basis for the federal government's assistance program when the overseas market was lost because of war.

Concerning research and advisory service relating to government policies divisions of economics have much in common. This field, already receiving consideration in the 1930's was greatly expanded when war speeded the adoption of government controls and governments in turn demanded more statistics and more economic research as a basis for policy making. Throughout the war and up to the present time a substantial part of the effort of the Agricultural Economics Division has been devoted to research, advisory and administrative duties associated with agricultural policies and programs.

---

[1] Booth, J. F. *Federal Activities in Agricultural Economics.* A paper read at the meeting of the Canadian Society of Technical Agriculturists. Wolfeville, N.S. June 1930.

Perhaps the attempt to separate agricultural economic research into what is *for* the farmer directly and what is for policy and administrative purposes (and ultimately for the farmer and others) is too simple. It is not always possible to segregate the purposes of research; much less the application. It would be a mistake too, and unfair, to suggest that the economists of other departments of government are not tackling problems that are very close to the interests of the people they represent, for they are. It is believed, however, that in no other department are the problems calling for economic research quite the same as in agriculture. Nor are they being dealt with in quite the same manner.

Functions and Organization of the Division.—The Economics Division is primarily a research and service organization. Research is undertaken for a specific purpose, however, and the results must be made known to those concerned. This calls for a certain amount of educational work which is usually conducted in co-operation with provincial extension services. As already noted, much of the research program is associated with agricultural policies, provincial or federal. In applying the results of such research Division personnel are constantly at the service of administrative officers, of committees, boards and similar bodies. The Division also participates in the administration of some legislation relating to marketing.

The headquarters of the Division are at Ottawa. Although it is a unit of the Marketing Service the Division's work embraces all phases of economic research and related activities. The activities of the Division are grouped under four sections as follows:

Policies and Prices: which includes studies of domestic policies, provincial and federal: policies and legislation of other countries relating to agriculture; also research in the field of prices and statistics.

Production Economics: including farm management, land economics, and farm finance.

Marketing: agricultural co-operation, commodity surveys, costs and margins, regional and local market surveys, transportation and consumer studies.

Rural Sociology and Agricultural History: Levels of living, farm population, community organization, and agricultural history.

The Division provides research, advisory or secretarial service for the following: Agricultural Prices Support Board, Agricultural Products Co-operative Marketing Act 1939, Agricultural Products Marketing Act 1949, Meat Board, Prairie Farm Rehabilitation Administration. It has had an active part in matters relating to the Food and Agriculture Organization, GATT, the International Trade Organization, and the European Recovery Program.

Special activities of the several sections of the Division include: the annual collection and publication of statistics on all co-operative organizations in Canada; participation in prepartion for the annual Agricultural Outlook Conference; publication of (1) *The Economic Annalist*, a bi-monthly report containing a review of the economic situation, important indices and preliminary results of research projects; (2) *Agriculture Abroad,* a quarterly digest of agricultural policies in effect or under consideration in various countries; (3) *Current Review of Agricultural Conditions in Canada,* a bi-monthly summary of general agricultural conditions and a review of commodities.

Regional Offices.—Five provincial or regional offices are maintained by the Economics Division. One of these, located at the College of Agriculture, Truro, N.S., serves all four Maritime provinces. The other offices are at Winnipeg, Saskatoon, Edmonton and Vancouver. Each of these offices serves a province, and close working relationships are maintained with the provincial University, the Department of Agriculture and other provincial government departments. In each of the three most westerly provinces office accommodation is provided by the University while funds, or personnel, or both, are provided by the provincial governments to effect a three way co-operative program.

Ontario and Quebec are served from Ottawa. No permanent staffs are maintained at the Colleges of Agriculture in these provinces but from time to time personnel are located there for the duration of a project. Similarly college or provincial department of agriculture personnel may be stationed at Ottawa to participate in joint economic projects.

Origin of Requests.—Much of the research program and many of the other services undertaken by the Division originate in the administration of the various programs of the Department. These activities are suggested by administrative officers of the Department. Some of the projects undertaken originate entirely within the Division and represent the attempt of the staff to meet existing needs or to anticipate problems that may arise in future.

A considerable part of the research program—probably more than half—has its origin in requests that come from many places and from a surprising variety of interests. Farmers and farm organizations, provincial governments, provincial boards and commissions, municipal authorities, colleges and universities, co-operative and private business organizations, consumer groups and others. The Division has never been without a backlog of requests for research—requests worthy of consideration and action.

Projects Conducted Jointly.—Most of the research program of the Division is conducted on a co-operative or joint basis. The co-operating agency may be another Division, Service or Department of the Federal Government. Much research and service at Ottawa particularly, is conducted on that basis.

At the provincial level the Division's activities are conducted very largely on a joint basis with universities, colleges and departments of government, municipal authorities, marketing agencies and the like. Co-operation may involve financial support, sharing of facilities or participation of personnel. Projects may be jointly planned and executed but supervision and publication of results is the generally recognized responsibility of the initiating body. Projects that are mainly of intra-provincial or local concern are considered the responsibility of provincial authorities but the Division will, and does, give assistance wherever possible when invited to do so. It is doubtful if any project is either exclusively provincial or federal in its application or in the interest attached to it.

These co-operative arrangements have worked well at both the federal and provincial levels. They have facilitated the development of economic research and have contributed to understanding and good will in this field of activity.

Retrospect and Prospect.—Twenty years ago a very small unit was added to the services of the Federal Department of Agriculture. Today that unit is a sizeable division with five regional offices most of which have a larger staff and are handling more research annually than the whole Division in its early years. Much of this research has been aided by mutually satisfactory co-operative relationships that have been established with universities and colleges of agriculture, with various departments of provincial governments and other agencies.

With its growth in stature the Division has expanded its co-operative relations with other units of the Federal Department of Agriculture and with other departments at Ottawa. It acts today as a service and co-ordinating agency in many activities that concern various Services and Divisions of the Department. It serves in many capacities in the inter-departmental field.

Its research which began with problems very close to the soil and to the market place has broadened in scope with experience and changing demands. Today it functions extensively in the national field and is making a modest contribution in the study of international affairs.

Looking to the future, it seems probable that the demand for economic information will continue to increase. There is every evidence that interest in the economic aspects of the day-to-day problems of the farm and market place continues to mount. This means more research in the fields of production and marketing economics. But there is an even greater interest in the economics of national and international affairs. Here too, more economic research and more service, particularly in relation to the broad issues and programs that feature the national arena will be required.

The Agricultural Economics Division should be able to make a contribution in this respect but the requirements of the future are likely to be more satisfactorily met if there are complementary developments elsewhere. Should this estimate of future demands be correct there will be need for more well-trained economists. This will mean enlarging the training program at universities and colleges where, for the most part, expansion has not kept abreast of the need.

Many of the economic problems in agriculture are mainly of local or provincial concern. They should be dealt with at that level. The provision of additional services to deal with these would no doubt facilitate further joint effort in dealing with matters of federal-provincial interest.

There is need for improvement in the tools and techniques of economic research and for their interpretation and adaptation to different situations. The establishment of a National Committee on Agricultural Economics to function under the National Advisory Committee on Agricultural Services, will provide a medium through which something may be accomplished in this respect.

Finally, a word should be said for an independent agricultural economics research institute or foundation. Such bodies exist in other countries. They contribute to the training of research workers, to the development of tools and techniques and to the conduct of research on matters that can be dealt with more appropriately by such an agency than by any other. Included in the latter is research of a fundamental nature. Such a body could, it is believed, make a distinct contribution to the development of Canadian agriculture.

Sales of fertilizers for consumption in Canada continued to rise in the year ending June 30, 1949, reaching an all-time peak total of 741,700 tons as compared with 672,200 in the preceding year, and 660,700 in the 1946-47 year. Sales in 1949 were more than double the 1940 total of 346,700 tons, and more than four times the 1927 sales of 170,000 tons.

Sales of fertilizer materials and mixtures both advanced during the year. Sales of mixtures were up to 611,700 tons from 564,900 in 1948, and the materials were increased to 130,000 tons from 107,300.

There has been a marked change in the proportion of sales of materials and mixtures since the twenties. In 1927 the sales of materials represented 62·1 per cent of total sales, but by 1949 the figure had fallen to 17·5 per cent. Sales of mixtures, on the other hand, accounted for 37·9 per cent of sales in 1927, but had risen to 82·5 per cent in 1949.

Canada's population increased 71,000 during the three months September to November last year, bringing the total for the 10 provinces at December 1, 1949, to 13,707,000.

TWO DECADES OF ECONOMIC RESEARCH AND INFORMATION

J. COKE

The development of an economic research organization involves not only a program of work but the training of a staff capable of planning, directing and carrying on the collection, analysis and interpretation of data. Moreover, the results must be made available in bulletins, professional papers and in more popular form.

This record of the work of the Division is concerned with the turning points in the evolution of a program which has grown in response to an increasing need for economic information on many phases of agriculture. It therefore does not include all the projects completed, nor are reports available for all the studies to which reference is made.

Farm Management.—In 1930 the Division had two farm management projects: the first was apple production in Nova Scotia, Quebec and Ontario; the second was a study of sheep ranching in Western Canada which centred in the Provinces of Saskatchewan, Alberta and British Columbia. Both projects were initiated as a result of requests from appropriate organizations for an analysis of the economic aspects of these types of farming. Then in 1931 a study of the use of farm power was undertaken in Manitoba, Saskatchewan and Alberta. This was part of the Pioneer Problems Committee Project which was done in co-operation with the Provincial Universities of the Prairie Provinces.

Most of the studies in farm organization and management have dealt with the farm as a unit but some enterprise studies have been carried on. The need for detailed information in the early years of the war on changes in receipts and expenditures of apple growers whose overseas market had disappeared warranted studies in the Okanagan Valley and the Annapolis Valley. Both projects involved cost analysis. In a number of cases, an attempt has been made to combine enterprise studies with general farm organization projects. For example, in 1936 a study of dairy farm management in Ontario was begun. While a feature of this study was the analysis of variations in costs of producing milk, the important factors affecting the success of dairy farms were emphasized. Similar studies have been carried on in Alberta and Manitoba, while a less comprehensive project was done in the Province of Nova Scotia.

Farm management data were first obtained almost exclusively by the survey method but with the beginning of the dairy farm management studies, account books were opened and the co-operators kept these records throughout the year. Currently, three studies of poultry farming are under way, all based upon farm accounts. In this connection, as an outgrowth of the poultry farm business study in Nova Scotia the Division is now engaged in a detailed analysis of labour on poultry farms, the objective being to discover methods of saving time and effort so that the work may be done more efficiently. Associated with this aspect of the poultryman's business is, of course, the problem of properly planned hen houses.

Land Utilization.—In 1935 the drought situation in Western Canada had reached the proportions of a national emergency. The Prairie Farm Rehabilitation Act was passed and it was considered that economic research should be carried on to provide a basis for a program of rehabilitation. With this in mind, a program of land utilization and land classification was initiated in Saskatchewan and Alberta. As a result, about forty million acres of land have been classified on the basis of potential productivity and much additional information obtained relating to farm organization on different classes of land. While most of this work has reference to dry land farming, five studies of irrigation farming have been made in order that the impact of irrigation on land use might be appraised.

In Eastern Canada three projects may be mentioned: "Land Utilization, Farm Production and Rural Living in Antigonish County, Nova Scotia", "Land Use and Part Time Farming in Cape Breton County, Nova Scotia", and "Land Use in Hope and Clark Townships" in Ontario. While these studies were designed to provide useful data, problems of research techniques were also involved.

Land Tenure.—The Division has been interested in methods of land tenure. Many of the farm management schedules provide for analyses of these problems. In this connection two reports have been published, one dealing with *The Farm Lease in Alberta* and the other *A Father and Son Business Arrangement for Prairie Farmers.* The latter is an effort to present pertinent information on the difficult problem of the transfer of farms from one generation to another.

Land Settlement.—Another series of projects initiated by the Division is that pertaining to land settlement. The Division has not confined its activities to the well-established farming districts. It has gone to the frontier and endeavoured to gain first-hand information on the problems of the new settler. This information has been obtained, not only to assist the settler, but to aid in the development of policies relating to land settlement. Studies of this sort have been carried on in the fringe areas of northern New Brunswick, north-western Quebec, north-eastern Ontario, northern Saskatchewan, northern Alberta, and north-central British Columbia.

Farm Finance and Taxation.—Three studies, which might be described as farm finance, were initiated. One was a study of the factors affecting the success of farm mortgage loans in Western Canada. Another was a study of credit unions and their place in the provision of credit for farmers. The results of this study have not yet been published. A project in rural municipal taxation was also carried on in the Province of Ontario.

Rural Sociology.—While the Division does not have a highly trained staff to conduct research in rural sociology, the importance of the social aspects of agricultural communities has not been lost sight of and projects in levels of living have been undertaken in both Western and Eastern Canada.

Marketing.—An objective in the establishment of the Division was to provide information on agricultural co-operation in Canada. Therefore, one of the first projects undertaken was the collection of annual statistics on co-operative marketing for farm products and the purchase of farm supplies. This is still a feature of the work of the Division and has been broadened to include credit unions and insurance. Moreover, detailed studies of co-operative activities have been made in some provinces.

The first commodity marketing study conducted by the Division was "The Marketing of Milk in the Sydney-Glace Bay Area of Nova Scotia". It was begun in 1931. Marketing methods in this area were very different from those used in many larger centres. This study was undertaken as a means of making information available to those concerned regarding the ways and means whereby the marketing of this highly important commodity could be made more efficient.

In 1932, the program of marketing research was enlarged and studies of the costs of operating cheese factories in Ontario and Quebec were begun. These were designed to throw light on the factors causing variations in costs of operating cheese factories and on the organization and management of these factories. When these projects were completed, similar studies of the costs of operating creameries in New Brunswick and in the Prairie Provinces were initiated and completed.

It may be observed that the work of the Division to this point had been almost exclusively confined to the collection and analysis of information designed for the use of farmers and those who were engaged in performing marketing services associated with the handling of farm products. In 1933, the Division began to study the legislation which had been enacted in Australia, New Zealand, Great Britain and the United States, to provide for improvements in the marketing of farm products. This work was preliminary to the enactment of the Natural Products Act, 1934.

Consumption.—In 1931 a mail questionnaire was used to study consumer preferences for apples. Four years later the program of research was extended to include the consumption of many agricultural products. There have been at least two phases of studies of this type. Originally, the Division was interested in the quantities consumed per capita and the factors affecting the consumption of different agricultural products. The objective was not only to provide factual information regarding consumption of food products but to indicate the possibility of increased sales. In the second or later stage of these studies, the emphasis was placed on the adequacy of the diets of people living in rural districts. While this series of studies has not been kept up to date, the Division has provided a considerable amount of data on rates of consumption of food products and the factors affecting consumption as well as the qualitative aspects of the diets of rural people. It might be pointed out that many of the first studies were carried on in urban centres with only sufficient information being obtained from farm families to provide necessary comparisons. In the more recent studies almost the entire sample has been obtained in rural areas.

Market Facilities.—About the same time that consumption studies were being introduced, another type of investigation was undertaken. It is illustrated by such reports as the *Wholesale Marketing of Fruits and Vegetables in the City of Toronto.* It was realized that changes in transportation, growth of population, and many other factors had become so marked that the facilities for handling perishable agricultural products were out of date in many of the larger centres. The Division, therefore, undertook to analyze the sources of supply, total amounts consumed in the market area, the facilities for handling fresh fruits and vegetables within a metropolitan area, and the amounts distributed to smaller cities and towns. As a result, new facilities have been or are being developed to provide for the more efficient handling of these perishable products.

Wholesale Costs.—After several years' study of fruit and vegetable marketing much supplementary data, including costs and prices were accumulated in the larger markets. To these data, information from other centres was added to provide the basis of a bulletin entitled *The Cost of Distribution in the Wholesale Fruit and Vegetable Trade.*

Market Areas.—Market area studies have been carried on in different sections of the country. A good example is "The Market for Farm Products in the Sydney-Glace Bay Area of Nova Scotia". Similar studies were completed in Quebec, Three Rivers and Sherbrooke. Such studies involve an analysis of sources of supply, the size of urban market and its importance as a distributing centre.

Transportation.—The most recent development in the marketing research program in the Division has been that of transportation in relation to agriculture. These studies are now in the initial stages and very little has been published.

Prices.—One of the first studies carried on in this field was an analysis of prices and returns for Nova Scotia apples. At a little later date another project, "Seasonal Variations in Canadian Agricultural Products", was initiated and carried through. More recently, price studies have been extended to almost all products and preliminary work has also been done on a study of margins between the farm and retail prices of farm products.

This work was especially important in connection with the activities of the Agricultural Supplies Board and the Agricultural Food Board during the war and is vital to any program of price supports such as is involved in the operation of the Agricultural Prices Support Act.

Intra-Governmental Service.—During the war, members of the staff served on committees established by the Agricultural Supplies Board. Some were associated with the Agricultural Food Board, the Meat Board and the Advisory Committee on Reconstruction. One was seconded to the Wartime Prices and Trade Board. The Head of the Division also served on the Canada-United States Joint Economic Committee. Members of the staff assisted in the preparation of a reference book on agriculture for the Dominion Provincial Conference on Reconstruction in 1945. The Division has always been represented at FAO conferences. One member of the staff acts as secretary of the Inter-Departmental Committee on FAO. The Division also assembles information for this International body. A member of the staff has been on the Canadian delegation at conferences leading to the establishment of the International Trade Organization, and has participated in the preparation of the International Trade Charter and tariff and trade negotiations.

Agricultural Policy.—It was recognized that departmental administrators and farm leaders must be informed not only with respect to developments within the boundaries of their own country but also in respect to the policies which are being evolved in other parts of the world. It was with this in mind that the Division began, in 1945, to place emphasis on agricultural policies abroad. To make the results of these studies available to the public such publications as *Agriculture Abroad, Spot News,* and *Overseas Report on Agricultural Developments* are issued.

Analysis of federal and provincial policies affecting agriculture involves a study of legislation and the regulations authorized as well as the activities which grow out of such legislation. This is a major task. Studies of the changes in Canadian agriculture over a period of years, interprovincial trade, assistance on subsidy policies, shifts in production and changes in population all reflect changes in policy and the impact of technological advance.

Outlook.—In 1934 the first report on the agricultural situation and outlook for Canada was published. The Division was responsible for the initiation of the program. Members of the staff acted in the capacities of chairman or secretaries of committees which were set up to appraise the situation and suggest the outlook for the coming year. The responsibility for the publication of the reports rested with the Division. This program was carried on until 1939 but with the outbreak of the war the situation and outlook report did not seem possible. It, however, became desirable to publish a quarterly report and with this in mind the *Current Review of Agricultural Conditions in Canada* was first issued in July 1940. It is now published bi-monthly.

As the war progressed Dominion-Provincial Agricultural Conferences were held to establish agricultural objectives or goals and to advise on measures that might be taken to meet these. With the return to peace a new type of Outlook Conference combining the statistical review of pre-war days with a discussion of policies and programs has been held each year. The establishment of objectives and commitments has no part in the present program but emphasis is put on the provision of information on which producers may make their own plans. The Division has had an active part in the preparation of statistical and economic data and reports for these various programs and conferences.

The Annalist.—It was recognized early in the life of the Division that readable economic information pertaining to agriculture was needed. It was with this in mind that the *Economic Annalist* was first published in January 1931; it is now in its 20th year. This publication summarizes results of research carried on in the Division, provides a means of getting information to the public more quickly than otherwise might be the case, and enables the presentation of data gleaned from research and other activities in a wide field.

Summary.—In considering the activities of the Economics Division over the past twenty years it is observed that research which began with problems very close to the farm level has undergone a considerable expansion. While studies in the fields of farm management, land economics, marketing and agricultural co-operation continue to represent major activities, the program during the past decade has become more diverse. More research is being undertaken in relation to national policies and programs and much more information and assistance is being provided at the administrative level. In the international field, too, the Division has become more active. On the one hand it helps to service various international organizations; on the other it endeavours to analyse and interpret foreign agricultural legislation and programs for the benefit of those concerned with agriculture in Canada.

Employment in the principal industrial divisions showed a further small decline at December 1. The advance index number, on the base 1926=100, was 201·5, as compared with 202·0 at November 1, and 204·3 at December 1, 1948. The index number of payrolls was down 0·2 per cent in the week ending December 1 than in the week of November 1, but 2·5 per cent higher than a year earlier. The advance figure of average weekly earnings at December 1 was $43.82, little changed from the all-time high of $43.80 indicated a month earlier, but $1.59 above December 1, 1948.

Cash income of Canadian farmers from the sale of farm products in 1949 amounted to $2,409,165,000. This figure is slightly below the 1948 peak of $2,449,900,000, but substantially above the 1947 total of $1,962,276,000.

Canadian Wheat Board participation payments to western producers on previous years' crops were substantially larger in 1948 and 1949 than in any year up to that time. Since August 1, 1949, western producers of coarse grains have received only an initial payment per bushel as provided under the terms of the compulsory coarse grain marketing scheme which entitles them to share in any surpluses accumulated by the Canadian Wheat Board through the sale of these grains.

In addition to the above totals, supplementary payments made under the provisions of the Prairie Farm Assistance Act in 1949 totalled $17,628,000 as compared with $20,746,000 in the preceding year, and $11,577,000 in 1947.

The advance estimates of cash income indicate lower returns in 1949 than in 1948 in all provinces except Saskatchewan and Alberta.

Production of eggs in Canada in 1949 amounted to 330,374,000 dozen, a decrease of 15 per cent from the preceding year's total of 388,579,000 dozen. In December, 26,911,000 dozen were produced as compared with 27,663,000 dozen a year earlier. Production was lower in all provinces in 1949 as compared with 1948.

Canada's domestic exports declined to $2,993,000,000 in 1949 from $3,075,400,000 in the previous year. The drop was due mainly to a sharp reduction in the aggregate value of exports to European countries. Exports to the United States reached an all-time record total of $1,503,459,000 as compared with $1,500,987,000 in 1948.

SELECTED LIST OF PUBLISHED MATERIAL[1] CONTRIBUTED BY MEMBERS OF THE ECONOMICS DIVISION, 1930 TO 1949

Agricultural Economics

A program for research in agricultural economics. J. F. Booth. *Proceedings of the Canadian political science association.* Vol. III. 1931. pp. 153-165.

The development of agricultural economics in Canada. J. Coke. *The Economic annalist.* August 1931, pp. 1-3; September 1931, pp. 3-6; December 1931, pp. 4-7.

University courses in agricultural economics. J. Coke. *Proceedings of the eighth annual meeting of the Canadian society of agricultural economics.* 1936. pp. 18-22.

Some observations on agricultural economics research in Canada. J. Coke. *Proceedings of the tenth annual meeting of the Canadian society of agricultural economics.* 1938. pp. 91-100.

Trends in the development of agricultural economics in Canada. J. F. Booth. *Scientific agriculture.* October 1946. pp. 479-489.

Co-operation

Observations on the co-operative marketing of grain by farmers' associations in Canada and the United States. J. F. Booth. *Proceedings of the second international conference of agricultural economists.* 1930. pp. 553-565.

The establishment of a central bureau of records of farmers' organizations. A. E. Richards. *Proceedings of the fourth annual meeting of the Canadian society of agricultural economics.* 1932. pp. 68-73.

Co-operation in Canada. Issued annually 1934 to date. (Reports from 1934 to 1940 were entitled *Farmers' business organizations in Canada.*)

Recent development in the co-operative purchasing of farm supplies. A. E. Richards. 1938. pp. 19. Processed pub.

Co-operative marketing at home and abroad. A. E. Richards. *The Economic annalist.* April 1938. pp. 19-21.

Agricultural co-operation in Canada. A. E. Richards. *Proceedings of the fifth international conference of agricultural economists.* 1938. pp. 357-367.

Co-operative marketing in Canada.* A. E. Richards. *Economic organization of Canadian agriculture*, published under the auspices of the Canadian Council, international conference of agricultural economists. 1940. pp. 191-216.

Co-operative values. A. E. Richards. *Economic annalist.* February 1940. pp. 8-9.

Co-operative legislation in Canada. 1941. J. E. O'Meara. *The Economic annalist.* October 1941. pp. 68-74.

*Co-operative purchasing associations in the province of Saskatchewan.** Part I. Historical and statistical analysis; Part II. The location, the services rendered, the competitive merchandising position of co-operatives in Saskatchewan in the year 1938; Part V. The control and cost of consumer credit. A. H. Turner. 1943. Economics Division, Dominion Dept. of Agriculture in co-operation with the Saskatchewan Dept. of Agriculture. Bul. Nos. 95-A, 95-B and 95-E.

Directory of co-operative associations in Canada 1945. 1945. pp. 79. Pub. 772, farmers' bul. 129.

Whither research in agricultural co-operation? J. E. O'Meara. *Scientific agriculture.* October 1946. pp. 529-532.

A directory of co-operative business organizations in the Province of Ontario 1947. 1947. pp. 43. Processed pub.

Co-operative associations among French-speaking groups in Ontario. R. Fortier. *The Economic annalist.* August 1948. pp. 56-60.

---

[1] The list includes bulletins published by the Economics Division, reports in *The Economic Annalist* not appearing elsewhere, and articles in professional journals. Preliminary reports that have been published in final form are not included. Although many of the bulletins are reports of joint Dominion-Provincial projects, only those published by a provincial agency are recorded as such. Unless indicated, bulletins have been published by the Dominion Department of Agriculture.

* Out of print.

Ontario co-operatives 1946-47. J. E. O'Meara. 1948. pp. 72. Ontario Department of Agriculture. (Conducted jointly by the Economics Division, Dominion Dept. of Agriculture and the Ontario Dept. of Agriculture.)

Co-operative business in Canada 1948-49. J. E. O'Meara. 1949. pp. 21. An address read to the American institute of co-operation conference, August 1949. Processed pub.

Credit

Rural credit in Canada. A. Gosselin. *The Economic annalist.* October 1931. pp. 1-4; Nov. 1931. pp. 5-8; Jan. 1932. pp. 7-9; Feb. 1932. pp. 19-22; Mar. 1932. pp. 29-31.

Agricultural credit in Canada.* A. H. Brown, A. Gosselin and J. B. Rutherford. *Economic organization of Can. agriculture,* published under the auspices of the Can. Council, international conference of agricultural economists. 1940. pp. 288-331.

Factors affecting the success of farm mortgage loans in western Canada. S. C. Hudson. *Scientific agriculture.* March 1941. pp. 368-377.

*Factors affecting the success of farm mortgage loans in western Canada.** S. C. Hudson. 1942. pp. 59. Pub. 733, tech. bul. 41.

Risk and uncertainty in agricultural entrepeneurship. G. P. Boucher. *The Economic annalist.* November 1948. pp. 85-88.

Credit Unions

Credit Unions in Canada. A. H. Turner. *The Economic annalist.* December 1940. pp. 84-88; February 1941. pp. 4-8.

Credit unions in Canada. Issued annually 1945 to date.

Notes on the Saskatchewan Co-operative Credit Society 1948. G. P. Boucher. *The Economic annalist.* May 1948. pp. 32-38.

Farm Organization and Management

General

Farm accounts, cost accounts and the farm budget. A. Gosselin. *The Economic annalist.* January 1931. pp. 6-7; February 1931. pp. 7-9; March 1931. pp. 7-9; April 1931. pp. 5-9; May 1931. pp. 5-8.

Research in agricultural economics and farm management. A. Gosselin. *Proceedings of the sixth annual meeting of the Can. society of agric. economics.* 1934 pp. 29-36.

Balancing the farm and family budget. 1939. pp. 5. Processed pub.

Farm organization in eastern Canada.* J. Coke. *Economic organization of Canadian agriculture,* published under the auspices of the Canadian council, international conference of agricultural economists. 1940. pp. 81-103.

Wartime changes on farms in the Elrose-Rosetown-Conquest area of Saskatchewan. R. A. Stutt. *The Economic annalist.* November 1945. pp. 79-83.

Farming in the irrigation districts of Alberta. C. C. Spence, B. A. Kristjanson and J. L. Anderson. 1947. pp. 66. Pub. 793, tech. bul. 61.

Changes in prairie agriculture, 1941-1946. Frank Shefrin. *The Economic annalist.* February 1948. pp. 5-9.

Research in production economics. J. Coke. *Proceedings of the eighteenth annual meeting of the Canadian society of agricultural economics.* 1948. pp. 1-14.

A farm business study with particular reference to the relation of farm types and land class, Cory-Asquith-Langham area, Saskatchewan, 1943. R. A. Stutt. 1949. pp. 72. Processed pub.

Farm business in central Alberta 1943-44. C. C. Spence. 1949. pp. 38. Pub. 823, tech. bul. 73.

Farming on bush lands at Debolt-Peace River, Alberta, 1945. B. K. Acton. 1949. pp. 28. Processed pub.

Agriculture in central Vancouver Island 1946. H. B. VanHorne and J. C. Maxwell. 1949. pp. 44. Processed pub.

Changes in farming pattern in south-eastern Alberta from 1931-1946. S. Mysak. *The Economic annalist.* April 1949. pp. 41-43.

---

* Out of print.

Livestock

An economic survey of range sheep production in western Canada. L. E. Kindt. 1933. pp. 45. Processed pub.

An economic survey of the sheep ranching industry in western Canada. L. E. Kindt. 1936. pp. 76. Pub. 551, Farmers' bul. 25.

The place of hogs on Ontario farms. F. H. Gorsline and H. K. Leckie. 1941. pp. 32. Pub. 725, farmers' bul. 106.

Cattle ranching in western Canada. C. W. Vrooman, G. D. Chattaway and A. Stewart. 1946. pp. 80. Pub. 778, tech. bul. 55.

Dairying

Purpose and instructions in the use of Dairy Farmers' Account Book. 1936. pp. 20. Processed pub.

The production of fluid milk in the Edmonton and Calgary milk sheds. G. H. Craig, J. Proskie and V. A. Wood. *Scientific agriculture.* March 1927. pp. 401-419.

The dairy farm business of the Ontario concentrated milk producers for the year ending June 30, 1937. H. R. Hare. 1937. pp. 17. Processed pub.

*Dairy farm management and milk costs in Ontario** H. R. Hare. 1938. pp. 10. Processed pub.

Factors affecting efficiency in dairy farming. H. R. Hare. *Scientific agriculture.* September 1939. pp. 51-60.

*The dairy farm business in Ontario.** H. R. Hare. 1940. pp. 65. Processed pub.

Four years of milk production in Ontario. H. R. Hare. 1942. pp. 16. Processed pub.

The Alberta dairy farm business. H. L. Patterson. 1945. pp. 22. Alberta Dept. of Agriculture bul. No. 73. (Prepared by the Economics Division, Dominion Dept. of agriculture in conjunction with the Alberta Dept. of Agric. and Univ. of Alberta.)

Dairy farm management in Nova Scotia. C. H. Chisholm. 1948. pp. 35. Processed pub.

Dairy farm business in Alberta, 1939-1943. H. L. Patterson. 1949. pp. 84. Pub. 812, tech. bul. 67.

The dairy farm business in Manitoba 1942-1947. H. L. Patterson and H. W. Trevor. 1949. pp. 41. Pub. 829, tech. bul. 76.

Fruits and Vegetables

An economic study of potato production in New Brunswick. I. S. McArthur. 1937. pp. 70. Pub. 562, tech. bul. 8.

Costs and returns in apple production, Rouville County, Quebec. A. Gosselin. 1938. pp. 15. Pub. 624, tech. bul. 17.

Production of vegetables in wartime gardens in urban centres of Canada in 1943. R. Choquette and W. C. Hopper. 1944. pp. 12. Processed pub.

Production of vegetables in wartime gardens in urban centres of Canada in 1944. R. Choquette and W. C. Hopper. 1945. pp. 17. Processed pub.

Costs and returns in the production of apples in the Okanagan Valley, B.C. B. A. Campbell and S. C. Hudson. 1945. pp. 25. Processed pub.

Farm organization and the cost of producing apples in the Annapolis Valley of Nova Scotia. B. A. Campbell. 1946. pp. 29. Processed pub.

Special Products

The production of sugar beets in southwestern Ontario. I. S. McArthur. 1941. pp. 71. Processed pub.

Machinery

Comments on depreciation and repairs of combine harvesters and tractors on the Canadian prairies. E. G. Grest. *Scientific agriculture.* September 1932. pp. 26-35.

Economic effects of mechanization of Canadian agriculture with particular reference to the spring wheat area. J. F. Booth. *Proceedings of the world's grain exhibition and conference.* Vol. I. 1933. pp. 352-361.

An economic analysis of farm power in Alberta and Saskatchewan. E. G. Grest. 1936. pp. 71. Processed pub.

Use of power equipment in the improvement of Alberta bush lands. B. K. Acton. 1944. pp. 10. Pub. 766, farmers' bul. 127.

Changes in the extent and effect of mechanization on Saskatchewan farms. R. A. Stutt. *The Economic annalist.* August 1944. pp. 57-62.

---

* Out of print.

*The machinery situation in the Elrose-Rosetown-Conquest area, 1944 survey.** R. A. Stutt. 1945. pp. 22. Processed pub.

The farm machinery outlook in the Prairie Provinces. H. L. Patterson. 1945. pp. 33. Processed pub.

Farm machinery requirements in Saskatchewan. J. D. Neilson and M. E. Andal. 1945. pp. 44. Processed pub.

Post-war trends in farm machinery purchases in eastern Canada. J. Coke and A. Gosselin. *The Economic annalist.* February 1946. pp. 20-23.

The pattern of mechanization and wartime changes on farms in the Elrose-Rosetown-Conquest area of central and west central Saskatchewan. R. A. Stutt. 1948. pp. 29. Processed pub.

The use of power machinery in bush land improvement in northeastern Saskatchewan. M. E. Andal. 1948. pp. 13. Pub. 814, farmers' bul. 153.

Canadian farmers mechanize. Frank Shefrin. *The Economic annalist.* October 1949. pp. 101-108.

Food and Agriculture

United Nations conference on food and agriculture. J. F. Booth. *The Economic annalist.* August 1943. pp. 33-37.

Canada's contribution to the food supply of the United Nations. A. E. Richards. *Canadian geographical journal.* July 1945. pp. 51-53.

The Copenhagen conference of the food and agriculture organization. J. F. Booth. *The Economic annalist.* November 1946. pp. 77-79.

Report of the FAO preparatory commission on world food proposals. S. C. Hudson. *The Economic annalist.* May 1947. pp. 28-32.

The world food situation. S. C. Hudson. *Canadian banker.* Winter 1948. pp. 30-39.

Our hungry world. J. F. Booth. Behind the headline series. C.I.I.A., Toronto. February, 1949.

Food Consumption

The purchase of apples by consumers in Montreal and Toronto. J. F. Booth. *The Economic annalist.* November 1931; December 1931; January 1932.

Some data on the consumption of maple products. G. P. Boucher. *Economic annalist.* October 1936. pp. 72-73.

Preliminary comparison of consumption of various agricultural products in Canada. C. I. Johnston. *The Economic annalist.* April 1937. pp. 24-25.

An economic study of the consumption of milk and cream in certain urban and rural districts in Canada. W. C. Hopper and G. P. Boucher. 1938. pp. 42. Pub. 608, tech. bul. 14.

Some economic aspects of the consumption of milk and cheese. G. P. Boucher. *Proceedings of the tenth annual meeting of the Canadian society of agricultural economics.* 1938. pp. 141-144.

Expenditures for meat in Saint John, Montreal and Vancouver. C. I. Johnston. *Proceedings of the tenth annual meeting of the Canadian society of agricultural economics.* 1938. pp. 152-157.

An economic study of cheese consumption in certain urban and rural districts of Canada. W. C. Hopper and G. P. Boucher. 1939. pp. 34. Pub. 658, tech. bul. 22.

Retailer and consumer preference for farm products in the Sydney market area. J .E O'Meara *The Economic annalist* June 1939. pp. 42-45.

Consumption of dairy products in rural Canadian homes. W. C. Hopper and P. H. Casselman. 1940. pp. 45. Processed pub.

An economic study of the consumption of milk and cream in Vancouver. C. I. Johnston and W. C. Hopper. 1940. pp. 41. Pub. 678, tech. bul. 25.

Consumption of meat in Saint John, Montreal and Vancouver. C. I. Johnston. *The Economic annalist.* April 1940. pp. 29-32.

The consumption of apple juice. C. I. Johnston. *The Economic annalist.* December 1940. pp. 91.

Consumption of milk in Canada. W. C. Hopper. *Canadian public health journal.* April 1941. pp. 147-153.

---

* Out of print.

Consumption of meat in city households. C. I. Johnston and W. C. Hopper. 1942. pp. 23. Processed pub.

Consumption of beef and veal in city households. C. I. Johnston and W. C. Hopper. 1942. pp. 28. Processed pub.

Consumption of lamb in city households. C. I. Johnston and W. C. Hopper. 1942. pp. 19. Processed pub.

Consumption of pork, bacon, ham, sausages, liver, and poultry in city households. C. I. Johnston and W. C. Hopper. 1942. pp. 29. Processed pub.

Consumption of food in large families. C. I. Johnston. *The Economic annalist.* February 1943. pp. 13-16.

Income and food consumption. W. C. Hopper. *Canadian journal of economics and political science.* November 1943. pp. 487-506.

Food consumption in farm households. F. M. Webster. *The Economic annalist.* February 1945. pp. 18-20.

A dietary survey in farm households, Ile Perrot, Quebec. F. M. Webster and M. S. McCready. *Canadian journal of public health.* April 1945. pp. 152-156.

Improving our food distribution. F. M. Webster. *The Economic annalist.* August 1945. pp. 65-67.

Consumption of food by farm families, Stormont County, Ontario. C. I. Johnston. 1946. pp. 39. Processed pub.

The impact of the war on domestic consumption of farm products. Frank Shefrin. *The Economic annalist.* November 1946. pp. 88-90.

Income

The quest for income in rural Cape Breton. S. C. Hudson and J. N. Lewis. *Public affairs.* August 1940. pp. 12-14.

*Changes in farm income and indebtedness in Saskatchewan during the period 1929-40.** E. C. Hope, H. Van Vliet and C. C. Spence. 1941. pp. 46. Univ. of Saskatchewan, Dept. of Farm Management, College of Agriculture. Bul. No. 105. (Univ. of Saskatchewan in co-operation with the Dominion Dept. of Agriculture.)

Farm income: cash and net, 1926-1948. Frank Shefrin. 1949. pp. 36. Proc. pub.

Insurance

Co-operative farm fire insurance in Quebec and Mutual Insurance Companies in Ontario and Manitoba. A. Gosselin. *The Economic annalist.* June 1931. pp. 4-5; July 1931. pp. 5-7.

Hail insurance. A. Gosselin. *The Economic annalist.* September 1931. pp. 7-9.

Economic aspects of crop (yield) insurance with reference to the province of Saskatchewan. W. J. Hansen. *Proceedings of the ninth annual meeting of the Canadian society of agricultural economics.* 1937. pp. 47-58.

International Trade

A brief discussion of the relationship of investment to international trade. A. E. Richards. *Proceedings of the sixth annual meeting of the Canadian society of agricultural economics.* 1934. pp. 105-110.

Trade agreements and their effect on agriculture. C. V. Parker. *Proceedings of the tenth annual meeting of the Can. society of agricultural economics.* 1938. pp. 1-6.

Agriculture and world trade negotiations. L. Lorinez. *The Economic annalist.* August 1946. pp. 51-57; November 1946. pp. 80-87.

Pre-war exports of perishable products from the port of Montreal. R. Choquette. *The Economic annalist.* November 1946. pp. 91-93.

The charter for an international trade organization and the general agreement on tariffs and trade. A. E. Richards. *The Economic annalist.* August 1948. pp. 61-65.

The Havana charter for an international trade organization. A. E. Richards. *The Economic annalist.* November 1948. pp. 76-79.

The European recovery program and Canadian agriculture. A. E. Richards. *The Economic annalist.* February 1949. pp. 5-8.

---

* Out of print.

Inter-governmental commodity agreements under ITO. A. E. Richards. *The Economic annalist.* April 1949. pp. 30-35.

Tariff reductions and trade expansions. A. E. Richards. *The Economic annalist.* December 1949. pp. 126-128.

Exports of Canadian farm products, war and post-war developments. Frank Shefrin. 1949. pp. 72. Processed pub.

Labour

Farm Labour in wartime. B. A. Campbell and J. Coke. 1942. pp. 45. Proc. pub.

Farm labour situation in Canada. J. Coke. *Journal of farm economics.* February 1943. pp. 287-294.

Farm labour: wartime policies. Frank Shefrin. *The Economic annalist.* February 1947. pp. 16-21.

Land Classification

Physical and economic factors related to land use classification in southwest central Saskatchewan. W. Allen, G. C. Elliott and C. C. Spence. 1938. pp. 52. Pub. 609, tech. bul. 15.

An economic classification of land and its relation to farm income, Eyebrow-Lacadena area, Saskatchewn, 1939-1940. C. C. Spence, S. Mysak and R. A. Stutt. 1941. pp. 28. Processed pub.

Land classifications in western Canada. J. Coke. *Scientific agriculture.* March 1941. pp. 378-387.

An economic classification of land in fifty-six municipal divisions, south central Saskatchewan. E. C. Hope and C. C. Spence. 1941. pp. 42. Pub. 728, tech. bul. 36.

Land use classification in the special areas of Alberta and in the Rosenheim and Acadia Valleys. A. Stewart and W. D. Porter. 1942. pp. 73. Pub. 731, tech. bul. 39.

..*An economic classification of land in the Weyburn-Estevan area, Saskatchewan, 1941.** R. A. Stutt and S. Mysak. 1943. pp. 32. Processed pub.

*Analysis of the wheat yield history in thirty-nine municipal units in south-west and west-central Saskatchewan.** S. H. Lane. 1944. pp. 14. Processed pub.

*The development and progress of economic classification of lands in Sask., and some results of the various studies.** R. A. Stutt. 1944. pp. 8. Pro. pub.

An economic classification of land and its relation to farm types and income, Blucher-Colonsay area, Saskatchewan, 1940-41. C. C. Spence and E. C. Hope. 1948. pp. 20. Processed pub.

An economic classification of land in the Elrose-Rosetown-Conquest area, 1944. R. A. Stutt. 1948. pp. 38. Processed pub.

Land Settlement

Agricultural progress on the prairie frontier. R. W. Murchie, assisted by W. Allen and J. F. Booth. Vol. V in the series Canadian frontiers of settlement. Macmillan Company of Canada, Limited, Toronto. 1936. pp. 344.

An economic study of land settlement in the Albertville-Garrick area of northern Saskatchewan, 1941. E. C. Hope and R. A. Stutt, 1944. pp. 32. Processed pub.

Settlement problems in northwestern Quebec and northeastern Ontario. A. Gosselin and G. P. Boucher, 1944. pp. 54. Pub. 758, tech. bul. 49.

Settlement problems in northern New Brunswick. A. Gosselin and G. P. Boucher. 1944. pp. 31. Pub. 764, tech. bul. 51.

An economic study of land settlement in representative pioneer areas of northern Saskatchewan. R. A. Stutt and H. Van Vliet. 1945. pp. 68. Pub. 767, tech. bul. 52.

Land settlement possibilities in eastern Canada. G. P. Boucher. *The Economic annalist.* May 1946. pp. 28-33.

Pioneer farming and municipal finance in the Sangudo-Winfield area of Alberta. B. K. Acton and C. C. Spence. 1947. pp. 49. Pub. 791, tech. bul. 59.

A study of pioneer farming in the fringe areas of the Peace River, Alberta. B. K. Acton and C. C .Spence. 1947. pp. 88. Pub. 792, tech. bul. 60.

---

* Out of print.

A study of land settlement in the Prince George-Smithers area, British Columbia. W. J. Anderson. 1947. pp. 58. Pub. 794, tech bul. 62.

Land settlement in northeastern Alberta 1943. B. H. Kristjanson and C. C. Spence. 1947. pp. 47. Pub. 800, tech. bul. 63.

Land Tenure

Land tenure. A. Gosselin. *The Economic annalist.* March 1933. pp. 30-31; April 1933. pp. 40-43.

Land ownership and tenancy in Canada. A Gosselin. *The Economic annalist.* June 1933. pp. 66-68.

Corporation farming in Canada. J. Coke. *Proceedings of the fifth international conference of agricultural economists.* 1936. pp. 259-270.

Trends in land tenure in Canada. S. C. Hudson. *The Economic annalist.* October 1937. pp. 74-78.

A father and son business arrangement for prairie farmers. J. R. S. Jorgens. 1947. pp. 15. Processed pub.

The farm lease in Alberta. J. R. S. Jorgens. 1947. pp. 18. Processed pub.

Policies and experiences relating to farm land tenure in Canada. J. F. Booth. *Family farm policy.* Univ. of Chicago press, Chicago, 1947. pp. 139-163. (Proceedings of a conference on family farm policy . . . February 15-20, 1946.)

Land Utilization

A study of land utilization, farm production and rural living, Antigonish County N.S. W. V. Longley and W. F. Chown. 1936. pp. 112. Nova Scotia Dept. of Agriculture, bul. No. 118. (Nova Scotia Dept. of Agriculture in co-operation with the Dominion Dept. of Agriculture.)

An economic study of land utilization in southern Alberta. G. H. Craig and J. Coke. 1938. pp. 79. Pub. 610, tech. bul. 16.

*Types of farming in Canada.** I. S. McArthur and J. Coke. 1939. pp. 43. Pub. 653, farmers' bul. 77.

Type of farming areas in Saskatchewan. R. A. Stutt. *Scientific agriculture.* May 1940. pp. 526-531.

Types of farming.* I. S. McArthur. *Economic organization of Canadian agriculture,* published under the auspices of the Canadian council, international conference of agricultural economists, 1940. pp. 57-80.

Land use and part-time farming in Cape Breton County, Nova Scotia. S. C. Hudson and J. N. Lewis. 1942. pp. 63. Processed pub.

Whither research in land economics? S. C. Hudson. *Scientific agriculture.* October 1946. pp. 511-514.

Land use in Durham county, Ontario. B. A. Campbell and J. Coke. 1947. pp. 45. Processed pub.

The economic aspects of land use in Saskatchewan. R. A. Stutt. *The Economic annalist,* October 1949. pp. 109-114.

Types of farming in Canada. S. C. Hudson, R. A. Stutt, W. Van Vliet and J. L. Forsyth. 1949. pp. 83. Pub. 825, farmers' bul. 157.

Marketing

General

Efforts to control marketing by government boards or organizations acting with government support. J. Coke. *Proceedings of the Canadian political science association.* Vol. V, 1933. pp. 90-105.

The Natural Products Marketing Act, 1934. T. G. Norris and W. C. Hopper. *Canadian journal of economics and political science.* August 1935. pp. 465-481.

Agricultural marketing research. W. C. Hopper. *The Economic annalist.* June 1935. pp. 22-24.

Terminal markets. W. C. Hopper. *The Economic annalist.* April 1936. pp. 19-22.

Additional facts with respect to the Ottawa public market. B. A. Campbell. *The Economic annalist.* June 1938. pp. 44-45.

---

* Out of print.

Some observations on the organization and operation of 25 Ontario markets. E. P. Reid. *The Economic annalist.* August 1938. pp. 58-64; October 1938. pp. 72-74.

The regulation and control of marketing.* F. M. Clement, W. C. Hopper and C. V. Parker. *Economic organization of Canadian agriculture* published under the auspices of the Canadian council, international conference of agricultural economists, 1940. pp. 217-236.

Public markets in Quebec city. B. A. Campbell and P. E. Doyle. *The Economic annalist.* June 1940. pp. 44-46.

The market for farm products in the Sydney area of Nova Scotia. E. P. Reid and W. C. Hopper. 1941. pp. 212. Processed pub.

Pooling returns from the sale of agricultural products. W. F. Chown. *Canadian chartered accountant,* March 1941. pp. 161-167.

The market for farm products in urban centres in northern Ontario. W. R. Peters and E. P. Reid. 1945. pp. 130. Processed pub.

The market for farm products in the town of Smiths Falls. P. J. Thair. 1946. pp. 79. Processed pub.

Whither research in marketing agricultural products? A. E. Richards. *Scientific agriculture.* October 1946. pp. 525-528.

The market for farm products in northwestern Quebec. E. P. Reid and H. Dubord. 1947. pp. 134. Processed pub.

Federal marketing and price support legislation in Canada. A. H. Turner. *Journal of farm economics.* November 1949. pp. 594-609.

Grain and Feed

The marketing of feed corn in southwestern Ontario. A. H. Turner, E. P. Reid and J. A. Brown. 1941. pp. 86. Processed pub.

The marketing of grain corn in southwestern Ontario. A. H. Turner. 1943. pp. 84. Processed pub.

Livestock and Livestock Products

Some observations on the marketing of feeder lambs and breeding ewes off ranches in western Canada. L. E. Kindt. 1935. pp. 4. Processed pub.

The direct marketing of livestock. W. F. Chown, S. C. Hudson and J. N. Lewis. 1941. pp. 30. Pub. 726, farmers' bul. 107.

The production and consumption of meats in Canada. H. K. Leckie. *The Economic annalist.* February 1943. pp. 11-12.

Wartime development in the Canadian livestock and meat trade. H. K. Leckie. *The Economic annalist.* November 1945. pp. 89-93; February 1946. pp. 8-12.

Factors influencing the dressed weight of hogs. F. M. Schrader. *The Economic annalist.* May 1948. pp. 39-41.

Dairy Products

The marketing of milk in the Sydney-Glace Bay area of Nova Scotia. J. F. Booth and R. P. Longley. 1933. pp. 46. Processed pub.

An economic analysis of cheese factory operations in Ontario. 1933. pp. 44. Dominion Dept. of Agriculture in co-operation with the Ontario Dept. of Agriculture.

An economic analysis of cheese factory operations in Quebec. 1933. pp. 37. Dominion Dept. of Agriculture in co-operation with the Quebec Dept. of Agriculture.

*An economic analysis of creamery operations in New Brunswick.** 1934. pp. 35. Processed pub.

Milk marketing legislation in Canada. C. V. Parker and H. R. Hare. *Proceedings of the seventh annual meeting of the Canadian society of agricultural economics,* 1935. pp. 70-81.

A classification and summary of research projects in dairy marketing. S. C. Hudson. *Journal of farm economics.* May 1936. pp. 320-329.

An economic anaylsis of creamery operations in Manitoba, Saskatchewan and Alberta. C. V. Parker. 1938. pp. 36. Pub. 605, tech. bul. 13.

Milk control legislation in Canada. B. A. Campbell. *The Economic annalist.* November 1947. pp. 91-94.

---

* Out of print.

Fruits and Vegetables

The regulation of the marketing of fruits and other natural products in Canada. W. C. Hopper, *Journal of farm economics.* May 1935. pp. 368-374.

*The marketing of perishable farm products in Canadian cities.** W. C. Hopper. 1937. pp. 7. Processed pub.

The wholesale marketing of fresh fruits and vegetables in the city of Toronto. W. F. Chown and W. C. Hopper. 1938. pp. 153. Processed pub.

The marketing of fresh fruits and vegetables in the city of Montreal. B. A. Campbell, A. Gosselin, P. E. Doyle and N. Delorme. 1940. pp. 100. Processed pub.

The accounts of Nova Scotia fruit companies. W. F. Chown. 1940. pp. 66. Processed pub.

Costs of distribution in the wholesale fruit and vegetable trade. W. F. Chown and A. H. Turner. 1940. pp. 70. Pub. 652, tech. bul. 21.

The wholesale marketing of fresh fruits and vegetables in the city of Toronto. W. F. Chown and W. C. Hopper. 1940. pp. 57. Pub. 673, tech. bul. 23.

The marketing of perishable farm products in Ottawa. E. P. Reid, B. A. Campbell and W. C. Hopper. 1940. pp. 35. Pub. 677, tech. bul. 24.

Marketing the Nova Scotian apple crop. A. E. Richards. *Public affairs.* August 1940. pp. 15-19.

The marketing of fresh fruits and vegetables in the cities of Sherbrooke and Three Rivers. B. A. Campbell, L. Fortin, P. E. Doyle and N. Delorme. 1941. pp. 81. Processed pub.

The Nova Scotia apple marketing situation. A. E. Richards. *Public affairs.* Winter 1941. pp. 79-82.

Marketing margins on British Columbia apples. A. E. Richards. 1942. pp. 11. Processed pub.

The marketing of fresh fruits and vegetables in Quebec city. B. A. Campbell, L. Fortin, P. E. Doyle and N. Delorme. 1942. pp. 43. Processed pub.

Marketing margins on apples. A. E. Richards. 1942 *convention programme, Ontario fruit and vegetable growers' association.* pp. 15-19.

The marketing of fresh fruits and vegetables in Greater Winnipeg. R. S. Elliott, B. A. Campbell and P. J. Thair. 1946. pp 102. A co-operative study conducted by the Manitoba and Dominion Depts. of Agriculture.

Marketing of apples. A. E. Richards. *A report on nutrition and the production and distribution of food.* Dept. of National Health and Welfare, 1946. pp. 165-170.

Apple marketing in western Ontario. M. Rachlis. 1947. pp. 40. Processed pub.

A survey of the production and marketing of potatoes in Saskatchewan. E. P. Reid and W. F. Ferris. 1947. pp. 17. Saskatchewan Dept. of Agriculture. Processed pub. (Saskatchewan Dept. of Agriculture in co-operation with the Dominion Dept. of Agriculture.)

Policy

Measures for the relief and rehabilitation of agriculture in Canada. J. F. Booth. *Journal of farm economics.* February 1935. pp. 76-88.

The social implications of economic progress in present-day agriculture. J. F. Booth. *Proceedings of the fifth international conference of agricultural economists,* 1938. pp. 27-40.

Wars and their effects on agriculture with particular reference to Canadian experiences. J. F. Booth. *Scientific agriculture.* April 1940. pp. 445-452.

The economic problems of Canadian agriculture in the war and postwar period. J. F. Booth. *Can. journal of economics and political science.* Aug. 1942. pp. 446-460.

Canadian agriculture and agricultural policies since the first world war. J. F. Booth. A report submitted to the Technical Committee on Agricultural Production, United Nations Interim Commission on Food and Agriculture. Sept. 1944. pp. 18.

Agriculture. Reference book for Dominion-Provincial conference on reconstruction [1945]. pp. 100. (Parts I and III prepared under the direction of Dr. J. F. Booth assisted by Frank Shefrin.)

Agricultural policy—wartime prices of farm products. Frank Shefrin. *The Economic annalist.* February 1945. pp. 10-14.

---

* Out of print.

Administration of Canadian wartime agricultural policies. Frank Shefrin. *Journal of land and public utility economics.* May 1945. pp. 167-180.

Canada's wartime agricultural-export policy. Frank Shefrin. *Foreign agriculture* (U.S.D.A.). February 1947. pp. 18-24.

Canadian farm aid programs. Frank Shefrin. *Foreign agriculture* (U.S.D.A.). August-September 1947. pp. 115-121.

Measures for increasing stability for agricultural production, prices and income in Canada. J. Coke. *Proceedings of the sixth international conference of agricultural* economists, 1947. pp. 426-441.

Research in agriculture. Frank Shefrin. *Public affairs.* April 1948. pp. 78-82.

Agricultural assistance war and post-war. Frank Shefrin and M. R. Cameron. 1949. pp. 48. Processed pub.

Prices

Comparative prices of farm products in Canada and the United States. J. F. Booth. *Journal of farm economics.* July 1933. pp. 510-527.

Prices and returns for Nova Scotia apples. A. E. Richards. 1940. pp. 50. Pub. 707, tech. bul 29.

Prices and net returns to the growers of apples in the Okanagan Valley. A. E. Richards. 1941. pp. 11. Processed pub.

Effect of the price of apples and the competition of other fruits on the sales of apples in the cities of Three Rivers, Sherbrooke and Quebec. B. A. Campbell and L. Fortin. *The Economic annalist.* August 1941. pp. 56-60; December 1941. pp. 92-95.

Seasonal variations in Canadian farm products. I. S. McArthur. 1942. pp. 14. Processed pub.

Whither research in agricultural prices? H. K. Leckie. *Scientific agriculture.* October 1946. pp. 515-519.

Seasonal variation in the price of hogs and bacon. F. M. Schrader. *The Economic annalist.* February 1947. pp. 13-15.

The hog barley ratio. F. M. Schrader. 1948. pp. 6. Processed pub.

Seasonal variation of prices of cattle and dressed beef. F. M. Schrader. *The Economic annalist.* February 1949. pp. 9-11.

Trends in the seasonal variation of cattle and dressed beef prices. F. M. Schrader. *The Economic annalist.* December 1949. pp. 136-139.

Sociology

Better housing for Canadian farmers. Frank Shefrin. *Public affairs.* December 1945. pp. 11-16.

Farm Family living in the Prairie Provinces. F. M. Edwards. 1947. pp. 28. Pub. 787, tech. bul. 57.

Family living levels measured by standardized rural socio-economic scales. M. A. MacNaughton. *The Economic annalist.* February 1948. pp. 9-16.

Changes in farm family living in three areas of the Prairie Provinces from 1942-43 to 1947. M. A. MacNaughton and J. Mann. 1949. pp. 99. Pub. 815, tech. bul. 69.

Statistics

Statistical handbook, statistics of production, imports, exports, domestic disappearance, and prices of various farm products of Canada 1926-46.* 1946. pp. 27. Processed pub.

Taxation

Taxation in rural Ontario. S. C. Hudson. 1936. pp. 32. Pub. 489, tech. bul. 4.

Taxation reform. S. C. Hudson. 1939 pp. 9. Processed pub.

Transportation

Transportation and agriculture. E. P. Reid. *The Economic annalist.* Aug. 1946. pp. 57-62.

Transportation and agriculture, 1949. E. P. Reid. *The Economic annalist.* December 1949. pp. 129-131.

---

* Out of print.

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS

APRIL 1950 Vol. XX, No. 2

CONTENTS

	Page
The Economic Situation	27
Apple Orchard Survey in the Okanagan Valley, British Columbia, 1948-49 . . . *H. W. Trevor*	30
Farm Business in the Warner-Milk River District of Southern Alberta . . . *S. Mysak*	34
Years of Incorporation or Registration of Co-operatives in Canada . . . *J. E. O'Meara*	39
The Recent Trend of Land Use Studies in Saskatchewan *J. W. Clarke*	40
Changes on Eastern Ontario Dairy Farms between 1937 and 1947 . . . *J. A. Dawson*	45
Review of Literature	47

MARKETING SERVICE, ECONOMICS DIVISION

J. F. BOOTH, Associate Director FRANK SHEFRIN, Editor

Published by Authority of the Right Honourable James G. Gardiner,
Minister of Agriculture

ANNUAL AND MONTHLY INDEX NUMBERS (a)

Wholesale Prices, Farm Prices and Living Cost Indexes

Year	Wholesale Prices 1935-39=100			Farm Prices of Agricultural Products 1935-39=100	Commodities and Services used by Farmers 1935-39=100		Cost of Living 1935-39=100	
	Farm Products (b)	Field Products (c)	Animal Products (d)	(e)	Equipment and Materials (f)	Eleven Factor Index (g)	Farm Living Costs (h)	Urban Living Costs (i)
1913	...	...	...	...	85·4	...	80·1	79·1
1914	...	...	...	...	90·2	85·3	82·3	79·7
1915	...	...	...	...	96·9	91·6	86·5	80·7
1916	...	...	...	...	101·7	100·5	93·7	87·0
1917	...	...	...	...	140·7	140·5	111·5	102·4
1918	...	...	...	...	164·1	160·2	131·1	115·6
1919	...	...	...	...	169·1	167·9	143·0	126·5
1920	...	...	...	...	190·1	186·5	171·3	145·4
1921	...	...	...	...	147·4	152·5	139·9	129·9
1922	...	...	...	...	124·6	134·1	127·9	120·4
1923	...	...	...	...	118·3	130·6	128·3	120·7
1924	...	...	...	...	122·3	131·9	125·5	118·8
1925	...	...	...	...	123·2	131·8	123·9	119·8
1926	144·4	158·5	130·2	...	119·9	130·6	121·1	121·8
1927	138·6	149·4	127·8	...	119·9	131·2	119·8	119·9
1928	136·3	134·3	138·2	...	118·3	129·3	118·5	120·5
1929	140·8	137·2	144·4	...	117·6	127·9	117·3	121·7
1930	119·5	105·8	133·3	...	105·6	117·0	113·7	120·8
1931	78·9	65·0	92·7	...	92·2	100·9	103·9	109·1
1932	65·5	60·4	70·5	...	89·3	93·3	97·8	99·0
1933	69·3	69·3	69·2	...	88·8	89·8	95·8	94·4
1934	83·5	80·5	86·5	...	96·8	95·5	97·9	95·6
1935	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	165·3	160·4	170·2	184·2	125·9	152·1	123·2	119·5
1946	177·0	172·9	181·2	200·8	128·0	157·0	127·1	123·6
1947	189·7	179·1	200·2	212·5	139·5	170·4	138·3	135·5
1948	229·6	195·6	263·7	252·6	173·1	196·9	162·8	155·0
1949	(j) 225·2	(j) 184·9	(j) 265·4	251·2	180·3	201·8	173·2	160·8
1949								
Mar	224·2	183·7	264·7	251·5	...	...	...	159·2
April	224·5	184·9	264·1	250·9	180·4	202·9	173·3	159·3
May	225·2	186·1	264·3	250·9	...	...	...	159·5
June	230·2	190·5	269·9	254·7	...	...	...	160·5
July	231·4	193·4	269·3	253·9	...	...	...	162·1
Aug	225·9	182·4	269·3	253·4	180·2	204·2	174·5	162·8
Sept	222·6	182·0	263·3	249·8	...	...	...	162·3
Oct	219.7	181.9	257.6	247·1	...	...	...	162·2
Nov	222·0	180·6	259·3	245·9	...	...	...	161·7
Dec	219·9	179·8	259·9	246·0	...	...	...	161·5
1950								
Jan	217·2	180·9	253·5	239·3	184·4	196·3	175·3	161·0
Feb	219·9	180·2	259·6	...	...	...	...	161·6
Mar	...	...	...	...	...	...	...	163·7

(a) Revised each issue.

(b) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo). Ottawa, Monthly. Wholesale prices of products of Canadian farms.

(c) Ibid (b). Wholesale prices of grains, hay, tobacco and potatoes.

(d) Ibid (b). Wholesale prices of animals and animal products.

(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo). Ottawa. Monthly.

(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo). Ottawa, Jan., Apr., and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.

(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.

(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.

(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

(j) Preliminary.

THE ECONOMIC SITUATION

The outlook for the year 1950 points to a maintenance of economic activity, although there will be price and production adjustments for various sectors of the Canadian economy. More jobs will be required for the growing labour force. More effort will be required to retain existing export markets and locate new ones. The highlight for the year 1950 is the increase in capital investment over 1949. The large domestic capital expenditures will absorb some of the slack due to a reduction in exports.

According to estimates made by the Department of Trade and Commerce capital expenditures in 1950 will total $3,587 million as compared with $3,425 million in 1949. Outlays by institutions, public utilities and government comprise an increasing proportion of the total program. On the other hand there are some indications of a levelling off in the upward trend of house building. Also, expenditures for farm equipment are now turning downward. Investment in manufacturing, though likely to be moderately below the 1949 level, still provides for continued expansion in productive capacity.

Other factors influencing developments in 1950 are the growth in Canada's population and government legislation.

Total population at the beginning of 1950 was 13,728,000, according to a special estimate by the Dominion Bureau of Statistics. This represents an increase of 149,000 in the six months from July 1, 1949, when it stood at an estimated 13,579,000, and 179,000 over the estimate of 13,549,000 for June 1 last year, which coincides with the decennial Census date. There are no comparable first-of-the-year figures available for earlier years. Census figures for 1901, however, show Canada's population at the start of the 20th century at 5,371,000. The population of Newfoundland in that year stood at 221,000, making the total of 5,592,000 for Canada's present area.

In the Speech from the Throne (February 16, 1950) the Governor-General stated: "My ministers will continue their efforts to secure reductions in trade barriers. To this end preparations are actively under way for further multilateral trade negotiations later in the present year".

Some industries, especially the primary ones, may require some assistance in making adjustments to a lower price level. As regards prices of some of the primary products, the Speech from the Throne had this to say:

> Circumstances outside Canada have been responsible for some downward adjustment in the price of farm products. Measures have already been taken to reduce the impact of these adjustments. In order to provide authority for continuing price support, to that end for the primary products of our farms and fisheries, you [Parliament] will be asked to amend the Agricultural Products Act, the Agricultural Prices Support Act and the Fisheries Prices Support Act.

The bills were introduced into the House of Commons on March 16, 1950.

The initial prices to be paid by the Canadian Wheat Board for Western wheat, oats and barley during the crop year commencing August 1, 1950 are: $1.40 per bushel, basis No. 1 Northern wheat in store Fort William, Port Arthur and Vancouver; 65c. per bushel for No. 2 Canada Western oats in store Fort William/Port Arthur; and 93c. per bushel for No. 3 Canada Western Six-Row barley in store Fort William/Port Arthur. Appropriate initial prices for other grades will be established by the Board. The Minister of Trade and Commerce in his announcement stated, "The final price which producers will receive for wheat delivered in 1950-51 will depend upon the international wheat situation as it develops, and the success of the Board's efforts in selling wheat at the best available prices". As regards oats and barley the Minister said, "The Government anticipates that there will be a continuing demand for oats and barley, and especially for malting barley".

In the case of flax, the operation of a voluntary pool will depend upon the acreage planted. However, the initial price would not be higher than $2.50 per bushel.

To sum up, the initial price for wheat is reduced from $1.75 per bushel to $1.40, and remains unchanged for oats, barley and flax.

Provisions under the Act covering unemployment insurance have been broadened to include additional income groups, and coverage for the lumber and logging industry has been widened. In addition, to take care of employees who lose their employment in the winter months and have either exhausted the benefit to which they are entitled or cannot yet qualify for benefit, an amendment provides for a scheme of supplementary benefit.

Action has also been taken to further relax import restrictions under the Emergency Exchange Conservation Act. The relaxations will occur in two stages effective April 1 and July 1 respectively. The general effect of all these changes is to eliminate most of the outright prohibitions on imports. As originally drafted more than two years ago, the prohibited list applied to about $150,000,000 worth of annual imports. The principal items that will still be on the prohibited list after July 1 will be pork and pork products, cut flowers, soft plastic sheeting, electric lighting fixtures and appliances, various kinds of ornaments, coin-operated amusement devices and vending machines and the so-called comic and pulp magazines. The total value of imports affected by the prohibited list will then be less than $25,000,000 on the basis of 1946-47 trade figures. Imports subject to quota will represent about $200,000,000 on the basis of 1946-47 imports. These reductions in the prohibited list will also have the effect of encouraging some additional imports from the United Kingdom and Western European countries. Further relaxations during the second half of 1950, according to the Minister of Finance, would have to depend on the future course of events.

Current economic trends at the beginning of 1950 were of a somewhat diverse nature. Unemployment, due to seasonal and other factors, caused considerable concern. Prices of farm products continued their marked downward trend. On the other hand, Canadian wholesale prices in January were slightly higher than in the preceding month but were down from a year earlier, according to the Dominion Bureau of Statistics. The general index number for January, on the base 1926=100 stood at 157·1 as compared with 156·8 in December, and 159·3 in January, 1949.

Canada's official cost-of-living index increased from 161·0 to 161·6 between January 3 and February 1 and to 163·7 on March 1. This total increase of 2·7 points followed an unbroken series of small declines totalling 1·8 and dating from the August 1949 peak of 162·8. From August 1939 to March 1950, the increase in the cost-of-living was 62·4 per cent.

Sales of new motor vehicles in January this year soared to an unusually high level for that month as most manufacturers introduced new models in large volume. Large increases in sales occurred in all parts of the country, with passenger cars accounting for a major part of the gain. There was also a marked increase in the financing sales of new and used vehicles during the month.

New vehicles numbered 26,593 units with a retail value of $53,714,978, an increase of 131 per cent in number and 118 per cent in value over January 1949 when there was a curtailment of distribution of passenger cars by most manufacturers resulting in sales of only 11,492 new vehicles with a retail value of $24,677,689.

Total exports to all countries in January declined in value to $221,200,000 compared with $237,000,000 a year earlier. But Canada's domestic exports to the United States—for the third successive month — were substantially higher in value in January than a year earlier. Shipments to Commonwealth and other countries were generally lower and the total value of domestic exports to all countries fell below that of January last year. Shipments to the United States thus accounted for about 59 per cent of the month's total value as compared with slightly more than 50 per cent in the 12 months of 1949.

Although the overall price index number of commodities and services used by farmers declined between August 1949 and January 1950, the prices of farm machinery, building materials, gasoline and oil, feeds and fertilizers, increased. The decline was due wholly to a sharp drop in farm wages.

Year End Review.—The following section outlines briefly some of the important economic developments in 1949. The increase in the physical output of all goods and services in 1949 seems to have been nearly three per cent. Industrial production rose slightly less than two per cent, agricultural output was down about nine per cent. It would appear on the basis of the number of persons employed that there was a fairly sharp increase in the output of service industries. The labour force again increased by about two per cent during 1949. The physical volume of consumer purchases of goods and services increased about two per cent over 1948, gross private capital investment by nine per cent, and government expenditures on goods and services by nine per cent.

According to the annual report of the Bank of Canada (1949), the increase in Canada's gross national product reflects not only the increase in total expenditure on goods and services but also the higher domestic content of such expenditure in 1948-49 as compared with 1928-29. The increase in the physical volume of consumption was associated with the increase in production which was about 80 per cent between 1928-29 and 1948-49 in spite of the fact that average hours worked per week must have declined over this period. Since there was an increase of 31 per cent in Canada's population, the Report states that the rise in physical consumption per capita has been about 39 per cent. This increase over a twenty-year period was equivalent to a cumulative annual increase per capita of 1·66 per cent.

Financial transactions as reflected in cheques cashed at the banks against individual accounts rose to the highest mark in Canada's history when they totalled $87,544 million for the year 1949 as compared with $80,687 million for the year 1948. The increase was thus 8·5 per cent while the 1948 figure was 8·3 per cent above that of 1947. The 1949 figures include clearances at St. John's, Newfoundland, for the nine months April to December in the amount of $357 million. Disregarding this factor it will be seen that the true increase in 1949 over 1948 was 8·1 per cent.

Railway revenue freight loadings in 1949 were somewhat below the comparative figures for 1948 and 1947. Cars loaded in the year just closed were estimated to total 3,907,000 as compared with 4,060,000 in the previous year and 3,957,000 in 1947. In actual tonnage the 1949 loadings were 106,310,000 tons compared with 112,837,000 tons and 109,069,000 tons.

The twelve month total volume of retail trading for 1949 was $7,695 million, six per cent above the $7,277 million recorded in 1948. While all five of the Canadian economic areas showed increases in the last year over the previous one the greatest increases were noted in the prairie provinces where increased cash income from the sale of farm products and the expansion of the Alberta oil industry proved beneficial. Saskatchewan and Alberta both recorded 12 per cent increases in the dollar volume of retail sales and Manitoba 11 per cent while the remaining provinces showed increases of from two to five per cent.

The price level, on the whole, at the end of 1949 was not much changed from the 1948 year end. There was a relatively small increase in the rate of earnings at the end of 1949 as compared with the end of 1948.

In 1949 external influences did not add as much to the pressure of demand on Canadian resources as had been the case in 1948. The physical volume of our exports declined about three per cent in 1949 as compared with 1948. Imports on the other hand were about the same in physical volume as compared with 1948.

Canada's domestic exports in dollar value declined to $2,993,000,000 in 1949 from the all-time peak of $3,075,400,000 in the preceding year. The drop was due mainly to a sharp reduction in the aggregate value of exports to European countries. Exports to the United States reached an all-time record total of $1,503,459,000 as compared with $1,500,987,000 in 1948. Imports into Canada reached a new record value of $2,761,200,000. Imports from the United States, United Kingdom, British West Indies and continental Europe were increased, but from Latin America and Commonwealth countries in Africa, Asia and Oceania were lower.

The export price factor on the average appears to have been about three per cent higher than in 1948 and the import price factor also about three per cent higher.

APPLE ORCHARD SURVEY IN THE OKANAGAN VALLEY, BRITISH COLUMBIA, 1948-1949

H. W. TREVOR

Fruit production in British Columbia has increased rapidly in recent years. It is estimated that more than 80 per cent of all tree fruit is produced in the Okanagan Valley. The volume[1] of all fruit produced in British Columbia increased from 319,552,000 pounds with a value of $7,379,840 in 1940 to 461,934,000 pounds with a value of $25,783,485 in 1947. Apples accounted for 249,602,000 pounds valued at $4,415,650 in 1940 and 325,934,000 pounds valued at $14,223,718 in 1947.

Of the average value of fruit production in Canada for the years 1947 and 1948 British Columbia produced[2]: apples 61 per cent, pears 72 per cent, plums and prunes 59 per cent, peaches 44 per cent, cherries 46 per cent and apricots 100 per cent. The corresponding figures for 1940 were: apples 33 per cent, pears 44 per cent, plums and prunes 46 per cent, peaches 15 per cent and cherries 39 per cent.

Changes in Plantings of Fruit Trees[3].—In the Okanagan Valley the relative increase in the number of trees from 1930 to 1945 was highest for peaches (533 per cent) and next highest for prunes (345 per cent) followed by pears (172 per cent), sweet cherries (123 per cent) and apricots (95 per cent). The increase in the actual number of trees was: peaches 251,182; pears 145,741; prunes 106,965; apricots 41,755; and cherries 31,603. During this same period the number of apple trees decreased by 85,814, but this does not indicate a decline in the apple industry. The decrease is due to the removal of old and damaged trees and those of undesirable varieties. It is also the result of a need for more space between trees which were originally planted too closely. Research and experience have shown that production and quality are maintained at a high level and spraying and thinning are facilitated when apple trees are planted farther apart.

Although from 1940 to 1945 the total number of apple trees decreased by 39,812, the most desired varieties, Delicious, McIntosh and Winesap increased by 64,561, 58,973 and 22,550 trees respectively.

The marketing agency, as represented by B.C. Tree Fruits Limited, recommends a still larger production of Winesap and Delicious apples and discourages the production of a number of varieties. The apple growers are meeting the situation with new planting and a continuous process of replacing old or damaged trees with the recommended varieties.

Apples.—Apples are by far the most important fruit in the Okanagan Valley and production is still increasing. Total sales of fruit for the 1947 Okanagan crop were as follows[4]:

Apples	$14,925,587.00
Peaches	2,074,944.00
Pears	1,601,831.00
Cherries	1,272,632.00
Prunes	758,098.00
Apricots	490,224.00

Quantities of apples handled by B.C. Tree Fruits Limited each year for the past six years are given in Table 1.

---

[1] Annual Report. British Columbia Department of Agriculture.

[2] Dominion Bureau of Statistics, Agriculture Division, Ottawa.

[3] Computed from the statistical data made available by the Horticultural Branch of the British Columbia Department of Agriculture.

[4] Annual Report. B.C. Tree Fruits Limited, Kelowna, B.C.

Table 1.—Quantity of Apples[a] Handled by B.C. Tree Fruits Limited, 1943-1948

Year	Packed Boxes	Pounds (Cannery)
1943	3,770,392	2,084,280
1944	6,616,453	55,925,840
1945	4,788,375	1,709,744
1946	7,855,596	38,515,160
1947	6,667,134	3,007,400
1948	6,244,897	4,957,880

[a] Annual Report. B.C. Tree Fruits Limited, Kelowna, B.C.

Apple Orchard Survey in the Okanagan Valley.—A farm business survey of apple orchards in the Okanagan Valley was undertaken by the Economics Division of the Federal Department of Agriculture in the spring of 1949. Complete records were obtained for 155 farms covering the business of the 1948-49 year.

Records were obtained from representative farms with five acres or more of orchard in the main fruit growing districts from Vernon in the north to Osoyoos in the south. A minimum size of five acres in orchard was adopted in order to exclude part-time growers from the study. Approximately two-thirds of the orchards in the Okanagan Valley are five acres or larger. Table 2 gives the distribution of orchards studied according to size.

By area, the distribution of orchards from which records were obtained compared favourably with actual distribution of all orchards in the Okanagan Valley; while 54·5 per cent of the orchards in the Valley were located south of Kelowna, 52·6 per cent of the records taken were from the farms of that area.

As in the 1940 study of apple production, the Okanagan Valley was arbitrarily divided at Westbank into Northern and Southern sections. Again, as in 1940, the Northern Okanagan included Kelowna, Winfield, Oyama, Okanagan Centre and Vernon. In addition to Osoyoos, Oliver, Kaleden, Okanagan Falls, Penticton, Naramata, Summerland, Peachland and Westbank which made up the Southern Okanagan, this study also included Keremeos and Cawston. Total numbers of 66 and 89 records, respectively, were obtained in the Northern and Southern Okanagan.

Northern Okanagan farms averaging 21·3 crop acres were larger than Southern Okanagan farms which averaged 15·3 crop acres. Only two-thirds of the orchards studied in the Northern Okanagan were less than 20 acres in size, whereas four-fifths of those in the Southern Okanagan were within this size range.

Table 2.—Distribution, by Size Groups, of Orchards in the Okanagan Valley, 1948-49

Size in Acres	All Orchards Over 5 Acres[a]	Recorded Orchards
	per cent	per cent
5·0—9·9	42	34
10·0—14·9	34	28
15·0—19·9	10	11
20·0—24·9	6	13
25·0 and over	8	14
All sizes	100	100

[a] Data supplied by B.C. Tree Fruits Board.

Table 3.—Land Use on Fruit Farms in the Okanagan Valley, 1948-49

Item	Average Acreage per Farm		
	Northern Okanagan (63 records)[a]	Southern Okanagan (87 records)[a]	Total Okanagan (150 records)[a]
	acres	acres	acres
Bearing apples	14·4	8·4	10·9
Non-bearing apples	1·9	0·7	1·2
Other fruit	2·1	4·2	3·3
Field crops	2·9	2·0	2·3
Total cropland	21·3	15·3	17·7
Pasture	1·1	0·4	0·7
Unimproved land	1·4	1·9	1·7
Waste land	4·9	9·6	7·7
Homestead	0·5	0·4	0·4
Total other land	7·9	12·3	10·5
Total land	29·2	27·6	28·2

[a] Two records not used from the Southern Okanagan and three not used from the Northern Okanagan, because of incomplete information regarding land use.

Capital.—The average total investment in farm business averaged $25,807 in the Northern Okanagan and $29,701 in the Southern Okanagan. Most of this difference was in land value. Although those in the north had somewhat greater acreage, the total investment in land averaged $16,751 in the northern area and $19,915 in the southern area. In the Northern Okanagan the investment in buildings was $5,683, in equipment $3,189, in livestock $154 and in feed and supplies $30. In the Southern Okanagan the investment in buildings was $6,517, in equipment $3,174, in livestock $69 and in feed and supplies $26.

The average value per acre of orchard was $792 in the Northern Okanagan and $1,319 in the Southern Okanagan. Within both divisions valuations varied from an average as high as $1,632 at Oliver to $639 at Vernon, with a few orchards at Naramata and Penticton being valued at more than $2,000 per acre.

Land Use.—Of the total crop acreage on the farms recorded in the northern area only one-tenth was in soft fruit and about one-seventh in field crops and vegetables. In the southern area more than one-quarter was in soft

Table 4.—Average Income from Different Sources on 155 Orchards in the Okanagan Valley, 1948-49

—	Northern Okanagan (66 records)		Southern Okanagan (89 records)	
	Dollars per Farm	Per cent of Total Revenue	Dollars per Farm	Per cent of Total Revenue
Sales of Apples	6,718	77·0	4,090	54·2
Sales of other fruit	1,039	11·9	2,897	38·4
British Columbia T.F. rebate	593	6·8	285	3·8
Field Crops	77	0·9	28	0·3
Livestock sales	50	1·0	14	0·5
Livestock products sales	35		25	
Miscellaneous receipts	206	2·4	209	2·8
Total	8,718	100·0	7,548	100·0

Table 5.—Frequency Distribution by Labour Income in the Okanagan Valley, 1948-49

Labour Income per Orchard	Northern Okanagan		Southern Okanagan	
	Number of Orchards	Per cent in the Group to the Total	Number of Orchards	Per cent in the Group to the Total
Minus Labour Income	17	25·7	22	24·7
$1.00 to $999.99	15	22·7	25	28·1
$1,000.00 to $1,999.99	12	18·2	20	22·5
$2,000.00 to $2,999.99	6	9·1	7	7·9
$3,000.00 to $3,999.99	6	9·1	6	6·7
$4,000.00 and over	10	15·2	9	10·1
Total	66	100·0	89	100·0

fruit and about one-eight in field crops and vegetables. The detailed average pattern of land use for the two areas as calculated for the orchards surveyed in 1949 is recorded in Table 3.

Livestock.—Very little livestock was kept on these fruit farms. In the strictly fruit-growing localities the high value of land prohibited its use for growing feed or pasture. Of the 155 farms surveyed, 14 had horses, 32 had cows, 16 had other cattle, 12 had hogs and 75 had poultry.

Farm Revenue.—Farm revenue on the Okanagan orchards is derived almost entirely from the sale of fruit (Table 4). For both the Northern and Southern districts fruit sales represented 96 per cent of the total farm revenue. However, the average revenue from sales of fruit other than apples was almost three times as large in the Southern Okanagan as in the Northern Okanagan.

Farm Expenses.—The operating expenses of Okanagan fruit farms vary greatly depending on size, locality, condition of the orchard and efficiency of management.

Current expenses ranged on Northern Okanagan farms from $785 to $27,151, with an average of $5,455, and on Southern Okanagan farms from $635 to $28,904 with an average of $4,644. Labour amounted to 56 per cent of the total current expenses in the northern area and 55 per cent in the southern area. More family labour was used in the north than in the south.

Table 6.—Average Financial Summary of Okanagan Fruit Farms by Districts, Apple Orchard Survey in the Okanagan Valley, 1948-49

Number of Records	Northern Okanagan	Southern Okanagan
	66	89
	dollars	dollars
Cash receipts	8,718	7,548
Capital receipts	130	121
Net inventory increase	768	330
Total farm receipts	9,616	7,999
Current expenses	5,455	4,644
Capital expenses	1,341	1,017
Net inventory decrease	....	....
Total farm expenses	6,796	5,661
Farm income	2,820	2,338
4% interest on investment	1,033	1,160
Labour income	1,787	1,178

Of the $3,086 labour cost on farms in the Northern Okanagan, approximately 16 per cent was for members of the farm family, whereas of the $2,554 in the Southern Okanagan only 8 per cent was for family labour. Other items of current expense in order of importance were fertilizer and spray material, operation of power equipment and irrigation charges.

Financial Summary.—The labour incomes[1] of the 155 orchard operators varied from $-3,939 to $19,729 in the Northern Okanagan with an average of $1,787, and from $-4,303 to $8,974 in the Southern Okanagan with an average of $1,178. Less than 34 per cent of the orchards surveyed in the Northern Okanagan and less than 25 per cent of those in the Southern Okanagan produced labour incomes of more than $2,000. About 25 per cent of all the farms could not even meet 4 per cent interest on the invested capital.

The foregoing does not take into consideration farm perquisites received by the operator. These were valued at an average of $619 for the Northern Okanagan farms and $697 for the Southern farms. Thus the average labour earnings in the north were $2,406 and in the south, $1,875.

FARM BUSINESS IN THE WARNER-MILK RIVER DISTRICT OF SOUTHERN ALBERTA

S. MYSAK

The Warner-Milk River district, which comprises about 1,500 square miles, lies approximately 50 miles southeast of the City of Lethbridge. Since this district is located on the western fringe of the brown soil zone, where the precipitation is relatively higher than farther east, it is considered to be one of the better farming districts in the brown soil zone.

The brown soil zone is fairly homogeneous with respect to the color of soil, type of vegetation and climate. Throughout this region, however, there are districts with local variations, in climate chiefly, which are of sufficient importance to warrant making a special study of them. The Warner-Milk River district is an example.

Purpose of the Study.—The purpose of this study was first, to examine the most recent trends in farm operations in one of the more productive districts of the brown soil zone; second, to study some of the efficiency factors associated with wheat farming—the predominant type of farming in the prairie region of Alberta; and third, because this particular district lies within the area of the proposed extension of irrigation in southern Alberta. Because of this possible future development, the most recent information on dryland farming was collected.

Method of Study.—The one-call survey method was used. Farms were selected at random according to size and the predominant soil type in the area. A total of 161 farms was visited. Municipal District of Warner, No. 4 and the 27 townships west of range 12 in Improvement District No. 3 comprised the sampling unit.

General Description of the Survey Area.—Soil and Topography[2]*:* About seventy per cent of the land under cultivation in the surveyed area is loam to heavy loam. The remaining soils are mostly silty and silty clay loams. Less than five per cent of the cultivated land is either on sandy loam or on mixed types. There is practically no heavy clay land except in a few isolated low-lying flats which are subject to flooding.

---

[1] Labour income is computed as follows: gross income, including increases in inventory, less cash expenses, any decreases in inventory, depreciation on capital goods, estimated value of unpaid family labour and interest on total farm capital.

[2] A detailed description of the soils in this area may be found in Soil Survey Bulletins Nos. 32 and 36, distributed by the Department of Extension, University of Alberta, Edmonton, Alberta.

The topography of the land is mostly level to gently rolling throughout the area with the exception of the southwestern corner where it is quite hilly. In the north the Etzikom Coulee and in the south the Milk River cut across the area from west to east. Besides these two, the Verdigris Coulee cuts the area diagonally from northwest to southeast. Thus along the banks of the coulees and the river there is considerable rough land which is unsuitable for cultivation.

Climate: The climate is usually hot and dry during summers and cold and crisp during winters. Westerly winds, sometimes known as "chinooks" are prevalent in this region. In summers they are often very hot and damage the green crops, especially when moisture is lacking. On the other hand, during winters they have a temperate effect on climate, often melting the snow and leaving the fields bare. The average annual precipitation in this area is around fifteen inches, of which half is received during the growing season. There are areas farther east where precipitation is as low as thirteen inches per annum.

The Business Year 1946-47.—The business year began on June 1, 1946, and ended on May 31, 1947. The price of wheat during this period was fifty per cent higher than the average price of five pre-war years, from 1935 to 1939. On the other hand, cattle prices were twice as high when compared with the same pre-war period. These two enterprises, especially wheat, are the chief sources of farm revenue in the area.

Farm operating costs, on the average, were fifty per cent higher than before the war and farm family living expenses thirty-three per cent higher.

Wheat yields in 1946 were slightly below the long-time average. On the 161 farms visited wheat averaged 12·9 bushels per seeded acre in 1946, as compared with the twenty-year average of 15·4. During the twenty-year period from 1927 to 1946 wheat yields were above the long-time average only five times.

Size of Farm.—The 161 farms visited varied in size from one-half section (320 acres) to three and three-quarter sections (2,400 acres). The average size of farm was 905 acres and the most typical size was slightly over 960 acres.

Almost twenty-five per cent of the 161 farms were in the 320 to 480-acre size group. Ten per cent of the 161 farms had at least 1,600 acres or more. On the average about eighty per cent of the farmland was improved.

Capital Investment.—Relatively high values placed by farmers on land in this area reflect better than average productivity of the land in the Warner-Milk River district as compared with other areas in the brown soil zone

Table 1.—Average Farm Capital and Acres of Cropland per Man According to Size of Farm Unit in Warner-Milk River District, 1947

	Size of Farm in Crop Acres				
	450 and under	451–650	651–1000	1001 and Over	All Farms
Number of Farms	36	49	38	38	161
Acres Cropland per Man	302	473	634	701	588
	—dollars—				
Land	8,348	12,445	16,957	35,289	17,986
Buildings	3,029	3,634	4,124	8,869	4,850
Seed	236	384	550	924	517
Feeds and Supplies	271	645	984	1,539	852
Livestock	622	592	808	1,054	759
Machinery and Equipment	2,856	4,541	5,310	9,642	5,550
Total Capital	15,362	22,241	28,733	57,317	30,514

Table 2.—Land Use in the Warner-Milk River District, 1946 and 1947

—	Crop Acres	Wheat	Oats	Barley	Flax	Rye	Improved Pasture	Mustard	Breaking	Summerfallow
					—acres—					
1946										
Average per Farm..	756	362	14	18	6	....	3	12	4	337
Per cent of Total...	100	48	2	2	1	....	....	2	....	45
1947										
Average per Farm..	778	353	14	31	25	1	4	41	2	307
Per cent of Total...	100	45	2	4	3	[a]	[a]	5	[a]	40

[a] Less than ·5 per cent but the three items add up to make one per cent of the total.

(Table 1)[1]. In addition to real estate, machinery and equipment made up a considerable portion of the total farm capital. Livestock, being relatively unimportant in this predominantly wheat area, made up only a small portion of the farm capital.

Average investment in farm capital was $30,500, but it varied anywhere from $15,000 to almost $60,000 (Table 1). On the average almost $23,000 per farm was invested in real estate. High degree of mechanization was reflected in an average investment of $5,550 per farm in machinery and equipment.

Land Use.—The land use pattern for the years 1946 and 1947 is shown in Table 2. Wheat and summerfallow is the main crop rotation followed in the Warner-Milk River district. Although slight changes in cropping practices may occur from year to year, wheat was sown on nearly fifty per cent of the cultivated land in 1946 and 1947. Flax and mustard acreages increased between the two crop years. This increase in these two crops was due to the unusual demand for oil-bearing seeds during and shortly after the war.

Coarse grains are relatively unimportant in this part of the prairies. Over a period of years farmers have found out that wheat is the most suitable grain for this area, and raise only sufficient feed grains to take care of the farm needs.

Table 3.—Labour Income by Size of Farm and Yield of Wheat Warner-Milk River District, 1946-47

Farm Size in Crop Acres	Wheat Yield in Bushels per Acre						Group Average	
	0–10		11–15		16 and over			
	No. of Farms	Labour Income	No. of Farms	Labour Income	No. of Farms	Labour Income	No. of Farms	Labour Income
		$		$		$		$
450 and under..............	12	141	9	460	13	629	34	412
451–650.....................	23	−274	12	431	14	1,402	49	378
651–1000....................	14	− 7	16	2,128	8	2,280	38	1,373
1001 and over..............	8	−2,358	19	1,806	11	4,553	38	1,725
All Farms.........	57	−413	56	1,387	46	2,090	159[a]	945

[a] Two farms were omitted because most of their income came from the sale of mustard seed.

---

[1] In a similar study in 1946 in the Foremost district, about 30 miles east of Warner, it was found that the average capital investment was about half of the Warner-Milk River figures. The average long-time wheat yield was 11·9 bushels in the Foremost district as compared with 15·4 in the Milk River-Warner district.

Size of Farm and Labour Income.—The question of what constitutes a suitable size of farm for a particular region is often raised by farm operators as well as those interested in farm management. A partial answer to this question may be seen in Table 3, which shows the relationship between labour income, size of farm in crop acres, and yield of wheat.

All farms, with the exception of those having less than 450 acres under cultivation, had a negative labour income when the wheat yield was under ten bushels per acre. Large farms with over 1,000 acres under cultivation and with wheat yields from 0 to 10 bushels sustained the biggest losses.

All survey farms having yields over 16 bushels per acre, which is higher than the long-time average for the district, had a positive labour income. As would be expected, there was a direct relationship between size of farm and labour income in the highest yielding group of farms. It might be mentioned that the largest farm in this group had 2,067 acres under cultivation.

The group of farms with an average wheat yield of 11 to 15 bushels per acre deserves special attention. For one thing, this yield range is most likely to occur over a period of years in the Warner-Milk River district, and for another, this yield range indicates that a medium-sized farm with 650 to 1,000 acres under cultivation gave the highest average labour income in the 1946-47 crop year. This suggests that under average conditions this size of wheat farm may be best suited for a prairie region.

Farm Expenses.—Current and fixed expenses were considered. Current expenses are expenditures made annually in connection with the operation of a farm, and include such items as power fuel costs, repairs and labour charges. Fixed expenses may be classed as the overhead charges which run from year to year regardless of whether anything is produced or not. Depreciation on machinery and buildings and interest on investment at a going rate are the main overhead expenses.

Table 4 gives a summary of the two types of expenditures incurred by the farm operators in the Warner-Milk River district during the 1946-47 crop year. Current expenses made up about 60 per cent of the total farm costs in 1946-47, while fixed costs made up the remaining 40 per cent. Thus the importance of fixed costs cannot be overlooked. Over-investment in machinery and buildings may be the cause of low net returns. This is one phase of farm business which should be carefully scrutinized by farm operators.

Farm Family Living Expenditures.—Although farm family living expenditures are not considered as part of the farm operating expenses, they are so closely integrated with the farm finances that they cannot be omitted from the discussion of the farm business. Farm family spending seems to be

Table 4.—Farm Expenses, Current and Fixed, According to Size of Farm, Warner-Milk River Districts, 1946-47

Size of Farm Crop in Acres	Current Expenses	Depreciation on Machinery and Buildings	Interest Charges	Total Current and Fixed Farm Expenses	Farm Living Expenses
	—dollars—				
450 and under	1,645	508	546	2,699	1,350
451–650	2,093	750	934	3,777	1,675
651–1000	2,679	870	1,083	4,632	1,960
1001 and over	5,105	1,648	2,021	8,774	2,449
All Farms	2,842	936	1,146	4,924	1,852

directly related to the size of farm business, and consequently to the gross returns. Living expenses ranged from an average of $1,350 per family on farms having under 450 acres cultivated, to $2,449 on farms having over 1,000 acres cultivated (Table 4). This increase in farm living expenses as the farms got larger is an indication of how farm families spend more money on living provided they have the means. Taking the size of family into account, a relatively high standard of living was maintained by the farm families in the Warner-Milk River district, when compared with other areas.[1]

Labour Requirements.—The labour used in months of paid and unpaid family labour is shown in Table 5. Except in the case of the large farms with over 1,000 acres of cropland, most of the labour on farms was supplied by the operator and his family. The large farms of 1,001 acres and over hired on the average 8·9 months of labour as against 1·0 to 1·6 for the middle-sized farms and 2·9 for all farms.

The overall average requirements were almost two men or 24 months of labour on farms of over 1,000 acres as compared with 14·1 to 15·3 for the middle-sized group of farms and 16·2 months for all farms in the survey.

Table 5.—Months of Paid and Unpaid Labour According to Size of Farm, Warner-Milk River District, 1946-47

Size of Farm in Crop Acres	Months Operator's Labour	Months Unpaid Family Labour	Months Paid Labour	Total Months Labour
450 and under	11·4	0·5	0·7	12·6
451–650	11·6	1·5	1·0	14·1
651–1000	12·0	1·7	1·6	15·3
1001 and over	12·0	2·6	8·9	23·5
All Farms	11·9	1·4	2·9	16·2

A considerable amount of land can be handled by one man on the highly mechanized wheat farms in the Warner-Milk River district. On farms of 1,001 crop acres and over, labour was used most efficiently. On these relatively large farms one man handled on the average 701 acres as compared with 302 on farms having less than 450 crop acres (Table 1).

In summing up it may be stated that in one of the better areas of the brown soil zone of southern Alberta this study revealed that in a year of near average wheat yields and favourable cost-price relationships, a family-sized farm of about 900 acres afforded the average farm family a reasonable level of living plus a fair return on the capital invested in the farm business.

---

[1] Average cash living expenditures in 1947 for farm families in West Central Alberta were $1,446. See, *Changes in Farm Family Living in Three Areas of the Prairie Provinces, From 1942-43 to 1947*, by M. A. MacNaughton and M. E. Andal. Publication No. 815, Technical Bulletin No. 69. Issued February 1949, by the Economics Division, Marketing Service, Department of Agriculture, Ottawa, and the Department of National Health and Welfare, Ottawa.

YEARS OF INCORPORATION OR REGISTRATION OF CO-OPERATIVES IN CANADA

J. E. O'MEARA

In the course of preparation of a new and revised Directory of Co-operative Associations in Canada each known association was asked to report the date of its incorporation or registration. Over 3,500 co-operatives are listed in the directory and of this number 3,229 reported they were incorporated. Incorporation or registration is an extremely important asset to any organization and co-operatives throughout Canada have made good use of the existing legislation in their respective provinces to obtain the advantages of legal incorporation. Only 28 associations reported that they were not incorporated. Some 225 recently-organized co-operatives did not report but it is not likely that any of these are unincorporated since the advantages of legal incorporation are constantly being stressed by the provincial co-operative unions and the leaders of the movement throughout the country.

Although slight differences exist in the various provincial Acts which allow incorporation of co-operatives they all provide for limited liability which is a very worthwhile protection to shareholders and members in respect to the debts of the corporation. Also, continuity of corporate existence is assured by incorporation since the co-operative association as a corporate body can carry on even if shareholders die or move away since shares can be transferred to new members. Instances of unincorporated co-operatives are few since the use of the word "co-operative" in the title of an association is usually restricted to those which are incorporated by authority of the appropriate legislation.

Acts regarding the incorporation or registration of co-operatives have been in existence in some provinces for many years and accordingly we gan go back almost to 1867 and find instances of legal co-operative incorporations. Unfortunately there are not many incorporated in those days that are operating to-day. There are some, of course, which have many years of corporate existence and successful operations behind them but changing conditions have resulted in changes of name and in functions and services which required re-organization, surrender of charters and cancellation of registration with the result that in some cases the most recent re-incorporation date has been reported. This, however, has occurred in relatively few instances.

The greatest period of activity in co-operative organization in Canada occurred between 1930 and 1948. During these twelve years, 2,439 co-operatives were incorporated or registered which is over 75 per cent of all co-operatives reporting. The most active years during this period were from 1941 to 1945 when 976 co-operatives were organized. This rush of organization and incorporation coincided with the re-organization of the Co-operative Union of Canada and with it the establishment of provincial co-operative unions to promote and protect co-operative associations. During this time interest in co-operatives was undoubtedly stimulated by the public hearings of the Royal Commission on Co-operatives which were held in every province. In Quebec over 400 new co-operatives were incorporated, many with the active assistance of the Superior Council of Co-operation.

This pattern of activity during these twelve years is repeated in every province and, with the exception of Saskatchewan, the period of greatest

---

Editor's Note.—This is the first of a series of four articles dealing with Co-operative Associations in Canada. The data on which these articles are based are from information in the files of the Economics Division which for the past eighteen years has compiled annual summaries on the extent of co-operative business in Canada from returns filed voluntarily by the individual associations.

The other three articles will deal with size of membership, dollar volume of business and types of co-operatives.

activity was between 1941 and 1945. The years between 1936 and 1940 saw the organization of 321 co-operatives in Saskatchewan and the number incorporated in that province since 1940 until 1948 has been decreasing.

Very few co-operatives which were incorporated before the turn of the century are in existence to-day. There are, however, 58 on record as having been in existence before 1900. These are practically all in Ontario and are mainly cheese and butter manufacturing companies which were organized under special or joint-stock companies acts. Their co-operative nature is in their method of operation and control whereby the dairy farmers own and control the company and share in the surplus in proportion to the value of their shipments.

Towards the end of the First World War and extending to about 1925 there was a flurry of organization and to-day there remain in existence almost 200 co-operatives organized during that period. Best known of these are the great wheat pools of Western Canada. The Alberta pool marked its 25th Anniversary in 1948 and in 1949 both the Saskatchewan and Manitoba pools reached their 25th year of continued successful operation.

There is record of only one co-operative in the Yukon Territory and it was organized only in 1947. Newfoundland has 45 registered business co-operatives. Data on their years of incorporation are not yet available but it is known that very few of these were organized prior to 1935.

THE RECENT TREND OF LAND USE STUDIES IN SASKATCHEWAN

J. W. Clarke

Early in the development of Saskatchewan agriculture it was evident to those closely related to this industry that different parts of the prairie lands of the province were fitted for different types of land use. Grain growing in South Western Saskatchewan was not expected to develop, nor was it encouraged in the early days. However, once the land in other areas had been picked over by the early land seekers, others demanded that the area be opened up for homesteading, and in recognition of the fact that the productivity of this part was believed to be less than that of the eastern part of Saskatchewan, a "preemption area" was established which enabled a homesteader to acquire an additional quarter section by purchase.

Success and failure rewarded the efforts of those pioneers who settled this less productive area with perhaps the greater emphasis on failure. By 1919, many farmers found themselves badly handicapped by debt and in need of assistance.

At Swift Current in July, 1920, a "Better Farming Conference"[1] was held where Canadian and American agriculturists met with practical farmers. The conference met to study prevailing conditions with a view to promoting a system of farming which could be carried on profitably in the semi-arid sections of the province. Thus, interest, research and study in good land use got underway in the early years of provincial agricultural development.

From a resolution adopted by the conference came the inspiration for the appointment of the Better Farming Commission. Its members endeavoured to ascertain the facts of the farming situation, particularly in the southwestern part of the province, with a view to determining what developments would be in the best interests of the country as a whole and the South West in particular.

The Commission recommended, among other things, that a soil survey be made which would help to make possible a more complete agricultural survey.

---

[1] *Report of the Royal Commission of Inquiry into Farming Conditions.* Province of Saskatchewan, Regina. 1921. pp. 5-14.

Fifteen years later, the Soils Department of the University of Saskatchewan completed a soil survey for the larger part of the settled area. In addition, during this period, early regional farm management studies were carried out by the Farm Management Department of the University of Saskatchewan. By 1936, a more complete agricultural survey was begun which in part consisted of an examination of the economic aspects of the land resources or, in other words, a study of land use.

This Saskatchewan land use study was carried out by the Economics Division, Dominion Department of Agriculture, in co-operation with the Department of Farm Management, University of Saskatchewan. A short quotation from the introduction of the report[1] explains the aims and uses of such a study.

> Land utilization studies aim at determining the type of farming best adapted to an area and to individual farms. They indicate the relationship between climate, soil, topography and various economic factors—and the effect of these on income and standards of living. They provide a basis for the application of sound credit and taxation policies and indicate the financial support likely to be available for the maintenance of public utilities and social services. A step toward attainment of these objectives is some form of classification of the land based on its economic potentialities. The classification of the land in South Central Saskatchewan . . . is part of an undertaking involving the whole of the drought area. It is believed that the information presented . . . will contribute to a more effective use of the lands in the area in question.

Over the twenty-five-year period immediately following the appointment of the Better Farming Commission, much valuable information was gathered in regard to land use, and in 1945 action was taken by the Saskatchewan Government to make a further study to determine a permanent land use plan. A Land Use Committee was appointed and directed to investigate the condition of agriculture in a designated area of south-western Saskatchewan. The report[2] released in 1949 forms a basis of implementing sound land use plans to guide the course of agricultural development in the province. However, there is still much to be done and the Land Use Committee stated its belief that future work involves the co-ordinated effort of all Dominion and Provincial services, together with the assistance of Municipal Councils and other civic organizations.

The main public purpose in using land is to maintain, on a fairly long-time basis, the highest possible level of living. Thus, the best land use means not only improved living conditions, but the maintenance of these improved conditions on a relatively permanent basis.

At the present time in Saskatchewan, local land use problems are being dealt with by all the services and organizations mentioned by the Land Use Committees. An example of what is being done in the local field is a study that was carried out in the Rural Municipality of Craik No. 222, in the fall of 1949.

The Local Problem.—The Council of the Rural Municipality of Craik No. 222 of the Province of Saskatchewan with assistance from its local advisory board, the Agricultural Conservation and Improvement Committee and the local

---

[1] Spence, C. C. and Hope, E. C. *An Economic Classification of Land in Fifty-Six Municipal Divisions, South Central Saskatchewan.* Ottawa, Dept. of Agriculture, Economics Division. Pub. 728. Tech. bul. 36, October 1941.

[2] *Report of the Land Use Study Made in Sixteen Rural Municipalities Contiguous to Swift Current* by the Land Use Committee Formed April, 1945. L. B. Thomson et al. Regina, Saskatchewan Dept. of Agriculture. Pub. 1949.

Agricultural Representative[1] decided in the fall of 1949 that some action must be taken with regard to a block of 79 quarter-sections of poor land lying in the southwestern corner of the municipality. Seventy-one quarter-sections of this block are now in the hands of the provincial government, having passed from private ownership over a series of years through various processes; four quarter-sections are owned by the rural municipality; and the remaining four quarter-sections are provincial school lands. The Land Utilization Board[2] acting as the Provincial Government's controlling body for land of this grade had in late years authorized the rural municipality to lease 71 quarter-sections of provincial government land and four quarter-sections of school land on a yearly basis. This was allowed so as to make some use of what produce was available each year and to give the municipality a small monetary return to replace in some measure the loss suffered in the way of taxable property.

This system of yearly leasing is not conducive to best land use as more consideration would be given to pasture production if security of tenure was assured. Discussion of the problem had finally crystallized into the idea that the area should be made into a community pasture, a fodder bank or a combination of these.

The Federal Economics Division was asked to assist in a land use study concerning utilization of the pasture and fodder on this small block of land, with the object of obtaining information on present and possible future pasture and fodder needs, present use of the area and the opinions of the farmers in regard to development, organization and administration of the area.

A map showing types and grades of vegetative cover, water and fence was prepared from a quick visual survey of the land area and aerial photographs made during the summer of 1947. A report of the findings was then prepared based on the information obtained from a questionnaire and the above mentioned map.

Soil and Topography.—The soil of the area is for the greater part Biggar Mixed Gravelly Loam and Sandy Loam, together with Biggar Sandy Loam. A small amount of Weyburn Loam and a mixture of Elstow Loam and Biggar Sandy Loam is present. The valleys and ravines contain eroded soils. The topography is gently to moderately undulating thus ensuring adequate surface drainage. However, internal profile drainage is usually excessive, thus making these soils the least drought resistant of the cultivated Dark Brown types. The Biggar Soils are low in drought resistance and below average in potential fertility and represent some of the poorest agricultural lands in the Dark Brown Soil Zone.[3]

Vegetative Cover.—Of the total acreage of approximately 12,500 in the area concerned, 8,094 acres were at one time or another under cultivation, while only 1,230 acres are cultivated at the present time. A further 1,808 acres have been reseeded to grass leaving 5,506 acres still abandoned and in a process of reversion to native grasses. Some of the abandoned land has more or less completely reverted to native grasses, while other parts of it are virtually sand dunes with a heavy or light stand of weeds.

---

[1] Saskatchewan has been divided into 36 Agricultural Representative Districts. The Saskatchewan Department of Agriculture program calls for the establishment of a "District Board" in each District, and an Agricultural Conservation and Improvement Committee in each municipality. The object of these two complementary groups is the promotion of agriculture; the former on a District scale, and the latter on a local scale. The Agricultural Representative is the link between the local communities, the District Board and the Saskatchewan Department of Agriculture.

[2] The Land Utilization Board has authority to prohibit the use of submarginal land for grain growing, in order to protect adjoining better land from soil drifting or to prevent the development of permanent "relief" areas. The Board sponsors the construction of community pastures by the Prairie Farm Rehabilitation Branch. Title to submarginal land is obtained by the Board either by transfer from a municipality or other owner or by exchange for land of similar value.

[3] Mitchell, J., Moss, H. C., and Clayton, J. S. *Saskatchewan Soil Survey Report No. 12.* Saskatoon, Univ. of Saskatchewan, College of Agriculture. June 1944, pp. 91-93.

The vegetative cover was classed in six grades ranging from 1 to 6, Very Poor (weedy with little edible grass), Poor, Fair, Medium Good, Good and Very Good (a heavy stand yielding approximately a ton of fodder per acre). The grades of native and abandoned cover are comparable but the seeded cover was much superior in yielding ability and a comparable grading was not attempted.

Facilities.—Water in sufficient quantities to be worthwhile for stock-watering purposes seemed to be lacking on a few sections. However, considerable free water in the form of springs was found along the valleys and ravines. In other places, the water level is high enough to accommodate shallow wells. Opinion seemed to indicate that enough water could be found to allow the area to be pastured.

There are many miles of fence erected and in service within the area at the present time. But it was felt that this fence would be of little value to any proposed project.

Land Occupancy and Utilization.—Sixty-three of the seventy-nine quarter-sections studied were leased at the time of the survey to twenty-one different operators, leaving a total of sixteen quarter-sections unoccupied. The number of farmers served by these leases is greater than such figures seem to indicate as some of the larger leases actually supply pasture and feed for two or three additional farmers. Information available shows a total of 31 individual farmers using the area.

As nearly as could be ascertained from the information supplied by the individuals interviewed, thirty-four of the sixty-three quarter-sections leased were utilized for pasture, while the remaining twenty-nine quarter-sections outside of 1,230 acres cultivated land scattered throughout, were utilized as hayland. Of the sixteen quarter-sections unoccupied this year, a few have potentialities for feed production but were cut down in 1948 and did not produce this year in sufficient quantities to induce leasing for hay. Some of the sixteen quarter-sections probably will never produce enough to make leasing profitable unless a program of reseeding and conservation is carried out.

Production and Potential Use.—For purposes of analysis the farmers interviewed were divided into two groups—those in the immediate area and those living more than five miles from the nearest point of the area concerned. No significant differences in the needs of those interviewed in the two groups were noted. Fodder was found to be the main need by the greatest number of farmers in both groups, but the majority favoured development of both fodder and pasture projects.

Parcels of land leased for pasture were considerably overgrazed according to P.F.R.A. standards, as approximately thirteen head per quarter-section were supported for the summer months, while P.F.R.A. pastures handle approximately 8 head per quarter-section on good pasture conditions. It was also found that an average of slightly less than seven loads of hay per quarter-section was taken from the area leased for hay in 1949, while in 1948, the yield was three and one-half times as great.

Practically all farmers interviewed wished to increase the size of their cattle herd, but in the main were prevented from taking such action due to pasture or hay shortage or both. Information obtained from the questionnaires indicates that, while 350 head of cattle were pastured during the summer months and an average of 316 loads of hay were cut during the last two years, the ultimate minimum demand from the area, when and if herd increases were realized, will be in the neighbourhood of pasture for 600 head of livestock and twelve hundred loads of hay. The whole area will never be able to pasture many more than 600 head, but it is entirely possible to produce all the 1,200 loads of hay needed on half the area and pasture considerable livestock on the other.

Factors Bearing on Development and Organization.—Care must be taken to encourage the farmer who will raise cattle regularly in order to ensure full utilization of the land over the years. At the present time, the demand for forage and pasture in the surrounding area exceeds the supply and is sufficiently strong to utilize all that the whole area could produce. The greater demand both for feed and pasture comes from the larger cattle raisers in the area immediately adjacent to the proposed project rather than from those further removed. Perhaps better coverage in obtaining interviews was given in the parts closest to the project area, but interest ran out quickly in other parts of the municipality where the distance from the project area was more than ten miles. This decrease in interest may well have been due in part to the difference in type of farming, as well as distance from area.

A summary of opinions of the farmers interviewed as to type of development and organization favoured indicates the majority of farmers favoured a fodder project more than a pasture project, but more favoured a project including both fodder and pasture. The great majority of farmers favoured the individual lease method of organization. Some weight was given to the levels of interest in the projects held by the different farmers. It was felt that the opinion of the farmer whose whole livelihood depended on having access to part of the area in question should be given more consideration than the opinion of a farmer who had little interest in the final outcome. A considerable number of those interviewed wished to have an impartial or outside final control in the administration of the project, but the majority were found to be satisfied with local administration of some type, which in the long-run can become better acquainted with the problems of the individuals concerned. It was pointed out, however, that a local administration must avoid partiality in administrative policies and practices.

In the light of all information gathered, it was felt that the area, if treated to a well organized plan of reclamation and conservation, can meet the urgent needs of nearby farmers for pasture accommodation, together with the total demand for fodder. The fodder requirements should be met first, but there is also a pressing need for some pasture.

Action Decided Upon.—In December, 1949, the report was presented to the Municipal Council, the Agricultural Committee, the local Agricultural Representative and the Provincial Land Utilization Board. It was agreed upon by those present that a program of reseeding and reclamation should be immediately undertaken by the Provincial Government, and that the area be utilized for both fodder and pasture. The remaining problem, that of deciding how the area would be handled in the future was not settled so readily. It was finally decided that the Saskatchewan Land Utilization Board should supervise the area on a continuing yearly lease basis until the seeding and reclamation program was well on its way to completion. During this time the Council, with the aid of the Agricultural Representative and Agricultural Committee may come to some decision as to the way it wishes the area to be administered in the future. They should make a recommendation to this effect to the Land Utilization Board so that when the area becomes ready for full use this Board will know the wish of the farmers in the rural municipality.

CHANGES ON EASTERN ONTARIO DAIRY FARMS BETWEEN 1937 AND 1947

J. A. DAWSON

The organization and management of farms is continually influenced by outside forces, and adjustments are under way at all times. In order to determine how these outside forces affect individual farm businesses, changes that have occurred on eastern Ontario dairy farms between 1937 and 1947 have been studied. During these ten years there was a very strong demand for the products of these farms. Labour and other supplies were at times in very short supply. These are among the most important factors that might be expected to cause considerable changes in farm organization. Dairying, however, is a sector of agriculture in which changes generally take place very slowly.

Information is available for a group of 142 dairy farms in nine counties[1] of eastern Ontario on which farm business studies were conducted in 1937-38 and again in 1947-48. In the former year these farms averaged 190 acres of which 87 were in crops; in the latter year they averaged 202 acres with 85 acres in crops. The average estimated value of real estate increased from $7,679 to $10,667 during this period.

The average farm income[2], which is the difference between total farm receipts and total expenses, increased by 56 per cent, from $746 in 1937-38 to $1,165 in 1947-48. Operator's labour earnings[3], which measure the returns to the operator for his labour and management, increased from $636 to $1,040, a change of 64 per cent.

A a result of a general increase in prices as well as certain other factors, both the value of products sold and the level of farm expenses increased to a much greater degree than income. Total farm receipts increased by 141 per cent, from $2,678 to $6,463, while farm expenses increased by 174 per cent, from $1,932 to $5,298. Sales of dairy products increased from $1,244 to $2,631. This was due mainly to a general increase in the price of dairy products. The average price received for milk on all farms increased from $1.32 to $2.74 per hundred pounds, an increase of 108 per cent. Farmers shipping to fluid milk markets received an average of $3.25 per hundred pounds in 1947-48 as compared with $1.64 in 1937-38. Prices received by those shipping to condenseries were $2.52 and $1.28 per hundred pounds respectively for these years. In both of these cases the increase was 98 per cent. Prices received by farmers shipping to cheese factories increased by 113 per cent, from $1.09 in 1937-38 to $2.32 per hundred pounds in 1947-48.

Shifts also occurred in the type of market outlets to which farmers shipped their milk, with more shipping to fluid milk markets and condenseries in 1947-48 and fewer to cheese and cream outlets. In 1947-48, 35 shipped to fluid milk markets compared with 29 in 1937-38. During the same period the number shipping to condenseries increased from 23 to 40. Cheese factory and creamery shippers, however, declined from 90 to 67.

The extent to which expense items increased varied considerably. Real estate taxes, for example, increased by about ten per cent while expenditures for fertilizer and purchased feeds were each approximately four times as great in 1947-48. The increases for these latter items were due to larger purchases as well as higher prices.

---

[1] Carleton, Dundas, Glengarry, Grenville, Lanark, Leeds, Prescott, Russell and Stormont.

[2] Farm income is the difference between total receipts and total expenses, taking account of inventory changes but excluding the value of farm products consumed in the home.

[3] Operator's labour earnings are the returns to the operator for his labour and management and are obtained by deducting from farm income a charge for capital invested in the business and adding the value of farm products consumed in the home.

The cropping system on these farms did not change greatly during the period studied; there was, however, some increase in the acreage of hay at the expense of small grains. Hay and fodder crops accounted for 57 per cent of the cropped land in 1947 as compared with 49 per cent in 1937. In each year, about eight per cent of the land was used for corn silage. Other crops represented a small proportion of the acreage cropped and showed very little change.

Yields in general were higher in 1947 than in 1937. Hay yields were considerably greater but grain and silage yields were lower than in 1937. This reduction in grain yields, coupled with the smaller acreage of small grains, was an important factor in the increased feed purchases in the latter year.

There was slightly less livestock on these farms in 1947-48. In order to put the total livestock on a basis for comparison, numbers were put in terms of animal units[1]. The total number of animal units per farm averaged 36·9 in 1937-38 and 33·6 in 1947-48. In this latter year, the number of horses, sheep, hogs and fur animals was slightly lower than in 1937-38. The number of cattle was about the same while poultry numbers increased slightly. Some indication of efficiency in livestock production on these farms can be obtained from the milk production per cow. The average production per cow in 1937-38 on 96 farms for which information was available was 6,050 pounds; in 1947-48 the average was 5,860 pounds on the same farms.

A a result of shifts in the cropping program and a slight reduction in the average size of the livestock enterprise, the size of the farm business, as measured by the number of productive man-work units[2], was lower in the latter year. On this basis, the size of business averaged 503 productive man-work units as compared with 565 in 1937-38. Since the acreage in crops remained relatively constant during this period, it is evident that these farms were operated less intensively in 1947-48. Miscellaneous enterprises, such as cutting wood and harvesting maple syrup on the farms and machine custom work and trucking off the farms, was of minor importance and represented a smaller proportion of the farm business in 1947-48.

The average labour supply on these farms represented an equivalent of 2·2 man years in 1937-38 and 1·9 in 1947-48. The average amount of work per man, on the basis of productive man-work units, increased only slightly from 255 to 261. However, a considerable increase in mechanization occurred on these farms during the ten-year period studied. The average investment in machinery was $1,424 in 1937-38 and $3,132 in 1947-48. Of the 142 farms, 38 had tractors in 1937-38 and 90 in 1947-48. Information on milking machines was available for 67 farms; of these, 22 had milking machines in 1937-38 and 46 had them in 1947-48. While the increase in the number of tractors was accompanied by a slight decrease in the number of horses maintained, the increase in mechanization did not result in any increase in the size of the farm business or in the intensity in farming operations; only a slight increase occurred in labour efficiency. From a purely financial point of view there is some doubt as to whether this increased mechanization has been entirely justified. However, there is no doubt that increased mechanization improved working conditions on farms and enabled farmers to work shorter hours.

---

[1] An animal unit represents an average mature horse or cow or the equivalent in other livestock based on feed consumption and manure production.

[2] A productive man-work unit is the average amount of work which would be accomplished in a ten-hour day on crops or productive livestock, or both.

REVIEW OF LITERATURE

Statistical Yearbook, 1948.

Prepared by the statistical office of the United Nations. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto), 1950. pp. 482.

Methods of Financing Economic Development in Under-Developed Countries.

Prepared by the Div. of Economic Stability and Development, United Nations Dept. of Economic Affairs. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto), 1949. pp. vii + 163.

Recent Developments in the World Economic Situation.

Prepared by the United Nations Dept. of Economic Affairs. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto), 1949, pp. 48.

Economic Bulletin for Europe.

Prepared by the United Nations Economic Commission for Europe. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto), Vol. 1, No. 2. October 1949, pp. 64; Vol. 1, No. 3. January 1950. pp. 84.

The Statistical Yearbook 1948, which contains 482 pages making up 158 tables, covers 239 countries, nearly the whole of the world. A separate English and French alphabetical country index, included in the Yearbook, shows the tables in which each country is listed, and will assist the reader who wishes to find data relating to a particular country. The Yearbook provides extensive information on population trends, manpower resources, forestry and fishing, industrial production, construction, fuel and power production, transport and communications. Balance of payments statistics are shown for most of the trading countries of the world. Sections are devoted to statistics of wages and prices, national income, and money and banking. Annual production figures, from 1928 through 1948, are given for 104 commodities, materials and products. Statistics on total imports and exports in national currencies from 1928 through 1948 are given for 130 countries—in effect, for the whole of the world's trading community.

A large part of the publication on financing economic development in under-developed countries consists of statements on the problem submitted by various international agencies at the request of the Secretary-General: the Food and Agriculture Organization of the United Nations, the International Bank for Reconstruction and Development, the International Monetary Fund, the International Labour Organization, the U.S. Economic and Employment Commission, the U.N. Sub-Commission on Economic Development, and the International Chamber of Commerce. These in general agree that under-developed countries should finance at least a substantial and, in normal cases, the major part of their economic development needs from domestic sources. The agencies vary, however, in their emphasis on methods. To some extent, the statement of each contains views which are not paralleled in other reports. The scope and emphasis of the statements are summarized and analysed by the Secretariat and related to the discussion of the various methods of financing. Domestic and foreign financing of economic development in under-developed countries assumes many different forms. In order to increase resources available for financing by domestic means, recourse may be had to a variety of methods. Those discussed in this study include voluntary savings, fiscal measures, inflationary methods, and direct controls which limit the use of various factors of production or restrict consumption. Methods of foreign financing discussed include private loans and equity investments, governmental loans and grants, and international loans and grants. The relative desirability of particular methods varies widely from country to country according to existing institutions, customs, and habits, the stage of development reached, and the objectives sought. Hence, it is emphasized, no general statement can substitute for direct recommendations to particular countries, arrived at only as the result of specific studies.

Recent developments in the World Economic Situation brings up to date the *World Economic Report, 1948* published by the United Nations in July 1949. It contains a review of major economic developments during the first half of 1949 and, so far as possible, the third quarter of 1949. It concentrates particularly on factors which are critical from the international point of view, and draws attention to international agreements and machinery as well as to national and international action taken for the achievement and maintenance of full employment and economic stability. Twenty-seven tables in an appendix contain selected statistical data on which many of the general observations made in the body of the report were based. The report states that total world industrial production turned downward in 1949 for the first time in the post-war period. The index of production for the world outside the United States continued to rise but at a slower rate than in the preceding year.

The *Economic Bulletin for Europe* is designed to provide a statistical summary and quarterly review of the economic developments in Europe in the intervals between the publication of the Economic Commission for Europe's annual economic surveys of Europe of which two have been published so far (*A Survey of the Economic Situation and Prospects of Europe,* published in April 1948, and the *Economic Survey of Europe in 1948,* published in April 1949).

The general review of economic developments reports that industrial production in Europe in the second quarter of 1949 continued to show an exceptionally high rate of progress, although in some countries there were signs that the rate of increase was falling off. The generally favourable record in production was overshadowed, however, by the alarming deterioration in Europe's overseas trade, imports rising and exports falling from the first to the second quarter. The situation did not improve in the third quarter and culminated in the devaluation of sterling on September 18th followed by a general re-alignment of most other European currencies in relation to the dollar.

The special article in the October issue on "The Gold and Dollar Deficit of the Sterling Area" examines the international payments position of the Sterling Area before the war and shows the basic changes which account for the post-war "dollar gap". In addition there is a note dealing with the relative changes in labour costs in industry in a number of European countries and in the United States between the pre-war period and the first quarter of 1949.

The rate of expansion of industrial production in the third quarter of 1949 in most European countries tended to slow down and to fall below the high rates of increase which prevailed in the first half of the year. In agriculture, however, Europe's grain harvest last summer was better than in 1948, but remained slightly below the pre-war level. For other crops the harvest was not on the whole so good owing to the summer drought. In addition to these general developments in the third quarter, the review examines such information as is available on the more recent movement of prices since devaluation.

The special article on "Pre-War Regional Interdependence and Post-War Interzonal Trade in Germany" analyses the effects of the disruption of interzonal trade in Germany since the war against the background of a detailed study of the former trade between the regions into which pre-war Germany is now divided.

The second special article on "Coal Production and Trade in Europe since the War" shows that although the period of acute shortage in Europe can be said to have ended in 1949, there continued to be many significant differences in the European coal market compared with pre-war.

These bulletins have a section giving European economic statistics covering a wide field.

BEYER, Glenn H. *Farm Housing in the Northeast.* Ithaca, N.Y., Cornell University Press. 1949. pp. xi + 458.

This book is a report of a survey of facilities, activities, possessions and preferences of families on owner-operated farms in the twelve northeasthern states of the United States. It also provides an analysis of the data. As stated in the foreword,

> "The report is intended to serve two primary purposes. First, it makes the findings of the survey immediately available to specialists in the fields of home economics, social science, architecture, engineering, and the building industry. Second, it provides many of the data needed as a basis for laboratory work in the development of space requirements for household activities and for the development of functional house plans".

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS

JUNE 1950 Vol. XX, No. 3

CONTENTS

Page
The Economic Situation 51
Historical Development of the Eastern Irrigation District 55
L. K. Dunsmore
Functions of Co-operative Associations in Canada, 1948 60
J. E. O'Meara
Trends in Canadian Dairying 62
M. Rachlis
Seasonal Variation in Egg Prices 67
G. Murray and G. Woollam
Review of Literature 69
New Publications 72

MARKETING SERVICE, ECONOMICS DIVISION
J. F. BOOTH, Associate Director FRANK SHEFRIN, Editor

Published by Authority of the Right Honourable James G. Gardiner, Minister of Agriculture

ANNUAL AND MONTHLY INDEX NUMBERS (a)

Wholesale Prices, Farm Prices and Living Cost Indexes

Year	Wholesale Prices 1935-39 = 100			Farm Prices of Agricultural Products 1935-39 = 100	Commodities and Services used by Farmers 1935-39 = 100		Cost of Living 1935-39 = 100	
	Farm Products (b)	Field Products (c)	Animal Products (d)	(e)	Equipment and Materials (f)	Eleven Factor Index (g)	Farm Living Costs (h)	Urban Living Costs (i)
1913	....	....	....	....	85·4	....	80·1	79·1
1914	....	....	....	....	90·2	85·3	82·3	79·7
1915	....	....	....	....	96·9	91·6	86·5	80·7
1916	....	....	....	....	101·7	100·5	93·7	87·0
1917	....	....	....	....	140·7	140·5	111·5	102·4
1918	....	....	....	....	164·1	160·2	131·1	115·6
1919	....	....	....	....	169·1	167·9	143·0	126·5
1920	....	....	....	....	190·1	186·5	171·3	145·4
1921	....	....	....	....	147·4	152·5	139·9	129·9
1922	....	....	....	....	124·6	134·1	127·9	120·4
1923	....	....	....	....	118·3	130·6	128·3	120·7
1924	....	....	....	....	122·3	131·9	125·5	118·8
1925	....	....	....	....	123·2	131·8	123·9	119·8
1926	144·4	158·5	130·2	....	119·9	130·6	121·1	121·8
1927	138·6	149·4	127·8	....	119·9	131·2	119·8	119·9
1928	136·3	134·3	138·2	....	118·3	129·3	118·5	120·5
1929	140·8	137·2	144·4	....	117·6	127·9	117·3	121·7
1930	119·5	105·8	133·3	....	105·6	117·0	113·7	120·8
1931	78·9	65·0	92·7	....	92·2	100·9	103·9	109·1
1932	65·5	60·4	70·5	....	89·3	93·3	97·8	99·0
1933	69·3	69·3	69·2	....	88·8	89·8	95·8	94·4
1934	83·5	80·5	86·5	....	96·8	95·5	97·9	95·6
1935	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	165·3	160·4	170·2	184·2	125·9	152·1	123·2	119·5
1946	177·0	172·9	181·2	200·8	128·0	157·0	127·1	123·6
1947	189·7	179·1	200·2	212·5	139·5	170·4	138·3	135·5
1948	229·6	195·6	263·7	252·5	173·1	196·9	162·8	155·0
1949	(j) 225·2	(j) 184·9	(j) 265·4	250·6	180·3	201·8	173·2	160·8
1949								
April	224·5	184·9	264·1	250·9	180·4	202·9	173·3	159·3
May	225·2	186·1	264·3	250·4	....	....	....	159·5
June	230·2	190·5	269·9	253·8	....	....	....	160·5
July	231·4	193·4	269·3	253·1	....	....	....	162·1
Aug	225·9	182·4	269·3	252·7	180·2	204·2	174·5	162·8
Sept	222·6	182·0	263·3	248·2	....	....	....	162·3
Oct	219.7	181·9	257.6	245·7	....	....	....	162·2
Nov	222·0	180·6	259·3	244·8	....	....	....	161·7
Dec	219·9	179·8	259·9	245·4	....	....	....	161·5
1950								
Jan	217·2	180·9	253·5	238·6	184·4	196·3	175·3	161·0
Feb	219·9	180·2	259·6	242·7	....	....	....	161·6
Mar	224·8	183·6	266·0	246·0	....	....	....	163·7
April	226·8	185·6	268·0	248·8	....	....	....	164·0

(a) **Revised each issue.**

(b) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo). Ottawa, Monthly. Wholesale prices of products of Canadian farms.

(c) Ibid (b). Wholesale prices of grains, hay, tobacco and potatoes.

(d) Ibid (b). Wholesale prices of animals and animal products.

(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo). Ottawa. Monthly.

(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo). Ottawa, Jan., Apr., and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.

(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.

(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.

(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

(j) Preliminary.

THE ECONOMIC SITUATION

Increased production resulting from a high rate of capital investment is reflected in the gross national product, which last year stood at $16 billion, and is forecast for 1950 at $16·3 billion. This compares with a pre-war level of gross national product averaging about $5 billion.

The total capital expenditure program for 1950 is estimated by the Department of Trade and Commerce at $3·6 billion, about 5 per cent above the record $3·4 billion achieved in 1949. Within this total, construction and machinery and equipment follow different trends. Construction, dependent mainly on domestic sources of supply, is estimated at $2·3 billion, about 12 per cent above the previous high of $2·1 billion in 1949, while machinery and equipment, having a much higher import content, is estimated at $1·28 billion, about 5 per cent below the peak of $1·35 billion also reached in 1949. Assuming on the average little change in prices between 1949 and 1950, changes in physical volume should about correspond with those in dollar value.

On the basis of present expectations for 1950 the overall capital program accounts for about 22 per cent of total national expenditure on goods and services. This is an unusually high proportion and emphasizes the continuing importance of investment requirements as a strong supporting influence in the economy at a time when some other demand elements are showing signs of slackening.

The expected change in distribution of investment between construction and machinery and equipment from 1949 to 1950 has significant implications in regard to the domestic impact of the whole investment program. The Department of Trade and Commerce indicates that the increasing proportion of construction in total investment in 1950 must be considered in relation to the fact that the domestic content of the construction dollar is considerably higher than that of a dollar spent on machinery and equipment. Moreover, there is a current trend towards the production of a wider variety of producers' machinery and equipment in Canada. These two factors should result in the program as a whole making a greater direct contribution to economic activity in Canada than is indicated by the actual dollar increase.

In general, according to the Department of Trade and Commerce it would seem that both from the standpoint of physical capabilities and prospective market conditions there is good reason to expect that, in aggregate, the investment program should be fully realized. It should, however, be kept in mind that with a large part of the post-war backlog made up, there is less likelihood this year of substitute programs taking the place of those that might be cancelled or deferred.

Full realization of 1950 construction intentions is not likely to be hampered by shortages of building materials according to a Department of Trade and Commerce report.

Shortages which persisted throughout 1949 and which are expected to continue in 1950 exist in the case of cement and cement products, building brick and other clay products, gypsum lath and wallboard, light gauge steel sheet and small sizes of steel pipe. Since production of these building materials is not expected to show a marked increase, imports will still be necessary on a fairly large scale. Alternatively, iron and steel products are moving into better supply and imports of steel will probably help to bring about a further increase in Canadian production of sanitary ware, heating equipment and pipe.

The present outlook is for Canadian production of primary iron and steel to continue at about present levels in 1950. However, as far as building materials made from these metals are concerned, this will be more than offset by a greater availability of pig iron and certain steel shapes from domestic sources and by large imports from the United States, the United Kingdom, and Belgium. The domestic supply of lumber is not expected to show any decided improvement as long as the present U.S. boom continues. For other building materials, anticipated increases in production are more modest than last year and a continuation of imports will be necessary where shortages still exist.

American business, exclusive of agriculture, as reported in the April 1950 issue of *The Survey of Current Business*, a United States Department of Commerce publication, also plans another year of large capital expansion, although the aggregate investment will be less than the high figures of the previous two years. Expenditures for the construction of new plants and the purchase of new equipment are scheduled at $16·1 billion during 1950. This is $2 billion, or 11 per cent less than in 1949.

This downward adjustment in capital outlays is not due to any expectation of a change in the current favorable market for goods, but stems rather from the gradual catching up on the backlog demand for plant and equipment carried over from the war. Actually, businessmen responding to this survey anticipate that sales in the aggregate will be as high in 1950 as in the preceding year.

The Nation's Budget.—In the Budget address on Tuesday, March 28, 1950, the Minister of Finance said:

> For the coming year I have already estimated expenditures at $2,410 million and revenues at existing tax rates of $2,430 million. That would leave us with a prospective surplus before tax changes of only $20 million. This leads me to conclude that no major changes in taxation would be wise this year. I am, therefore, proposing no important changes, but, as occurs each year, experience or changing circumstances require us to make a number of minor or technical changes in the tax laws, to remove anomalies, to secure greater equity, to clarify obscure points, or to meet special circumstances. In only two or three instances will there be any significant revenue implications in my proposals.
>
> First, with regard to taxes on commodities, I propose that purchases by certain defined classes of institutions caring for orphans, the aged and the incapacitated be exempt from the sales tax effective July 1, 1950.
>
> There is at present an extra five per cent tax on toilet soaps... this tax has been very difficult to administer, and I am proposing that it be repealed effective midnight tonight... The only other commodity tax change that I propose is the removal, effective midnight tonight, of the sales tax on ice cream, on drinks prepared from fresh milk and on prepared whipping cream.
>
> With regard to the Income Tax Act no changes are being recommended in the rate structure. However, I am proposing certain amendments which will be of specialized but fairly widespread interest.

Current Situation.—During the first four months of 1950, many of Canada's important industries have continued to operate at, or near, capacity levels. The index of industrial production is higher than it has been in the early months of any other post-war year. But the number of unemployed Canadians is higher than a year ago.

Employment.—The Canadian civilian labour force, during the week ending March 4, 1950, is estimated at 5,108,000 (5,007,000 excluding Newfoundland) compared with 5,200,000 (5,086,000 excluding Newfoundland) for the week ending October 29, 1949 and 4,899,000 for the week ending March 5, 1949. The decrease of 92,000 in the labour force between October 29, 1949 and March 5, 1950 is comparable with that recorded in the same seasons of other years.

The total of persons with jobs in the week ending March 4th was 4,796,000 (4,717,000 excluding Newfoundland), an increase of 17,000 over the total for March 5, 1949, but a decrease of 257,000 when compared with the week ending October 29, 1949. Some decrease in the percentage of the civilian labour force with jobs occurred in all regions during the 12 months March, 1949 to March, 1950, but the tendency was most pronounced in the Maritime Provinces.

The peak in numbers of unemployed has been passed and the seasonal increase in employment in most industries is now underway. The improvement in the employment situation at the beginning of May was especially marked in Ontario and the Pacific regions.

The general average per capita weekly salaries and wages reported for employees of leading manufacturers at March 1, 1950 was $45.80, the maximum since the monthly record was established in the spring of 1941.

Canada's population at the first of March this year was 13,766,000, an increase of 59,000 over the figure for December 1, 1949, according to the quarterly estimate by the Dominion Bureau of Statistics.

Sales.—Department store sales in Canada in March—excluding Newfoundland—totalled $67,361,000, down two per cent from the March 1949 figure of $69,019,000. Sales for the first three months of this year amounted to $167,371,000, virtually unchanged from last year's corresponding total of $167,821,000. Comparatively small changes in sales were reported from all regions in the month, ranging from a two per cent increase in Quebec to five per cent and six per cent decreases in Ontario and British Columbia, respectively.

Factory shipments of Canadian-made motor vehicles were again at a high level in March, with a substantial advance over a year earlier, the gain being due to increased shipments of passenger cars. Cumulative total for the first three months of this year was nearly 60 per cent higher than in the similar period of 1949.

While registering a more moderate increase over 1949 than in the two previous months, March sales of new motor vehicles were maintained at a high level. Financing of sales of new and used vehicles also continued to show large increases.

Sales of grocery chain stores, hardware chain stores and variety chain stores showed increases in March over the corresponding month last year, while decreases were registered in women's clothing chains, shoe stores, and drug stores. Stocks held by each of the six chains were higher at the end of March than at the same time last year.

The food store group had sales totalling $41,894,000 as compared with $36,253,000 in March, 1949, a rise of 15·6 per cent, while sales of variety stores increased slightly to $9,408,000 from $9,281,000, or by 1·4 per cent.

Cost-of-Living.—The cost-of-living index advanced from 163·7 at March 1st to 164·0 at April 1st. Foods contributed approximately one-half of the increase of 0·3 points, while the fuel and light index gain was next in importance. From August 1939 to April 1950, the increase in the cost-of-living index was 62·7 per cent.

Exports.—Canada had a debit balance of trade with all countries of $5,700,000 in March—the first since April last year. This compares with a small credit balance of $1,400,000 in February, and debits of $16,900,000 and $2,400,000 in March and April 1949. In the first quarter of 1950 the balance was in Canada's favour to the extent of $7,500,000 compared with a debit of $600,000 in the same period of 1949.

Canada had a debit balance in commodity trade with the United Kingdom in March instead of the traditional export surplus, due to a sharp rise to a new peak total in the value of imports and a fall in the value of exports. There was also a debit balance from trade with the other countries of the Commonwealth. At the same time the debit balance with the United States continued the downward trend of recent months, imports falling below a year earlier for the fifth successive month and exports again moving to a higher level. These were only slightly offset by a small export surplus to all other foreign countries.

Domestic and foreign competition is becoming a factor of increasing importance in the Canadian market for the first time in a decade and exports of many manufactured products are on the decline. However, the outlook for the overall export trade, according to the Minister of Trade and Commerce, is as follows:

> We have been able to maintain our exports at somewhat over 3 billion dollars. We expect them to continue at about the same level during 1950, assuming average crop. Inability to freely exchange currencies has brought about some redirection of our exports and some marked changes in the pattern of our prewar trade. Last year we sold about 50 per cent of our exports to the United States and we bought from the United States about 70 per cent of our imports. This year, we expect to sell more to the United States, and to buy less from that country. Thus we are moving toward a better balanced trade with the United States.
>
> Last year we sold to the United Kingdom goods in excess of our sales to that country in any other peacetime year. We bought from England less than one-half as much as we sold to her. During 1950 we expect to sell less to the United Kingdom, just as we expect to buy more from the United Kingdom.

Intended Plantings.—Canadian farmers have indicated on the basis of their intentions at April 30, that the acreage seeded to spring wheat will be reduced about two per cent from last year's level. This is a decline of some 400,000 acres. Land to be in summerfallow in the Prairie Provinces is also down from last year, a reduction of about four per cent or a little over 850,000 acres. For all Canada, the intended acreages for 1950 as reported at April 30, are as follows, with the 1949 acreages within brackets: Spring wheat 26,342,400 (26,735,700); oats 12,041,800 (11,388,900); barley 6,918,100 (6,016,700); spring rye 345,600 (308,600); flaxseed 497,000 (321,100); potatoes 486,700 (510,300); summerfallow 20,105,000 (20,958,000).

These intended acreage estimates are merely indicative of farmers' plans at the end of April, and acreages actually seeded may, therefore, vary considerably from the intentions figures, depending upon conditions affecting seeding subsequent to April 30.

A report on crop conditions throughout Canada was issued by the Dominion Bureau of Statistics on May 30, 1950. The weather in the Maritimes has been unusually dry during most of May. Seeding and planting operations are well under way. In Quebec the season was late but very warm weather during the last week in May permitted rapid seeding. In Ontario, apart from the northern districts, spring seeding has been nearly completed. Fall wheat prospects vary from fair to very good. Tobacco planting operations, under favourable conditions, were general during the last week in May. Crop conditions over the Prairie Provinces are extremely variable. Precipitation averages only 14 per cent below averaged more than 60 per cent above normal and the most backward season is being experienced in the province. Provincial officials doubt whether the flooded area in the Red River Valley, which is estimated to be nearly one-half million acres, will produce much more than feed this year. In Saskatchewan spring precipitation averages only 14 per cent below normal and surface moisture conditions are fair to good although subsoil reserves are low. Good progress has been made in seeding except in the southeast and small areas of the north. In Alberta, with the exception of the Peace River area and the extreme southwest, dry conditions are reported and general rains are needed now. The season in British Columbia continues to be backward and growth is about 10 days later than last year. Seeding is completed in the southern areas and is well under way in northern sections.

Farm Prices.—The general downward trend of farm prices in the period September 1949 to March 1950 was punctuated by a sharp drop in the index from 245·4 in December to 238·6 in January, and the recovery to 246·2 by March. The decline to the January low was largely due to lower prices for hogs and eggs, while increased prices for livestock and eggs resulted in the rise by March to a point slightly above that of December but two points below the September index of 248·2. Compared with a year earlier March prices were lower for all commodities except livestock.

The current price support program may be divided into three parts. Under the Agricultural Prices Support Act butter and eggs are currently being supported. The floor price for No. 1 Creamery at Montreal, Halifax, St. John and Toronto was set at 53 cents per pound from May 1, 1950, five cents per pound less than that in effect since May 1948. Price support for eggs is in the form of a storage program, the Board agreeing to buy out of storage late in 1950 all eggs stored to its specification at 38 cents per dozen for "A" large and 36 cents for "A" medium. The Canadian Wheat Board has set initial prices for the 1950-51 grain crops at $1.40 per bushel for No. 1 Northern wheat in store Fort William-Port Arthur/Vancouver, 65 cents per bushel for No. 2 C.W. oats basis Fort William-Port Arthur and 93 cents per bushel for No. 3 C.W. 6 R. barley, same basis. The operation of a voluntary flax pool will depend upon the acreage planted. The Board has indicated that the initial price would not be higher than $2.50 per bushel. Under the Agricultural Products Act, the Dairy Products Board is buying cheese to fill the United Kingdom contract at 28 cents per pound basis first grade f.a.s. Canadian seaboard, and the Meat Board is paying $32.50 per 100 pounds of bacon basis Grade "A" Wiltshire sides delivered at the Canadian seaboard for shipment to the United Kingdom.

Wheat Program 1950-51.—The Canada-United Kingdom Wheat Agreement will not be renewed after July 31, 1950. The Minister of Trade and Commerce read the following statement in the House of Commons on May 30, 1950:

> The Canadian Minister of Trade and Commerce held discussions in London with United Kingdom ministers on the subject of the United Kingdom's wheat requirements in the crop year 1950-51 within the framework of the international wheat agreement.
>
> Both governments have now reviewed the results of those talks. They are agreed that the international wheat agreement removes the need for a contract to replace the existing Anglo-Canadian wheat agreement which expires at the end of July.
>
> The United Kingdom government has made it clear that out of its total wheat import requirements in 1950-51, it expects to buy a large proportion in Canada which, quite apart from the special contractual arrangements for the past four years, is, and it is hoped will remain, the traditional source of supply for the United Kingdom. The Canadian government, for its part, is satisfied that Canadian wheat growers will continue to find in the United Kingdom a market for a very substantial part of their exportable wheat.

The Minister also pointed out that the United Kingdom has agreed to take 300,000 tons of Canadian flour at competitive North American prices as part of its purchases of Canadian wheat in the crop year 1950-51. He forecast that for the year the United Kingdom will purchase from Canada between 100 and 120 million bushels of wheat.

The prices under the international wheat agreement for the year 1950-51 will be in the range from $1.98 to $1.54 per bushel.

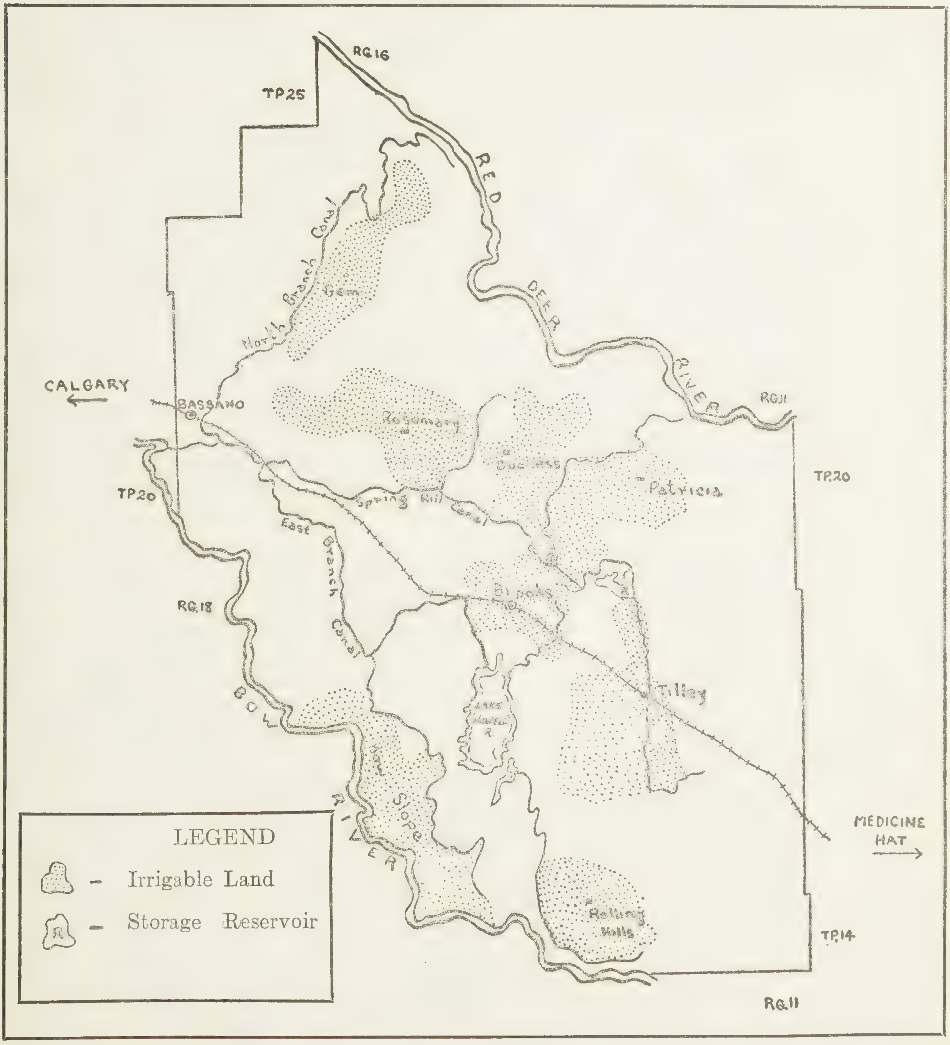
HISTORICAL DEVELOPMENT OF THE EASTERN IRRIGATION DISTRICT[1]

L. K. DUNSMORE

The Eastern Irrigation District, the largest irrigation district in operation in Canada contains one and a quarter million acres of land of which 160,000 acres were under water contract to approximately 1,500 farmers in 1948. Another 120,000 acres are regarded as being potentially irrigable.

It has for its northern boundary the Red Deer River and in the south the Bow River. The eastern boundary is the dividing line between ranges 10 and 11, west of the 4th meridian. On the west the boundary follows the dividing line between ranges 18 and 19 from the Bow River through township 23, then

EASTERN IRRIGATION DISTRICT, BROOKS, ALBERTA



---

[1] Based on information gathered from the 1949 survey covering the Eastern Irrigation District, Canada Land and Irrigation Co., Taber Irrigation District, Lethbridge Northern Irrigation District, and the St. Mary's-Milk River Development.

jogs irregularly northeast to terminate on the Red Deer River at the western side of range 16 (see map). Brooks, the most central point of the District, is 125 miles east of Calgary and 65 miles west of Medicine Hat on the main line of the C.P.R. The Trans-Canada Highway also passes through the area.

The project started when the Bassano Dam, located at Horseshoe Bend on the Bow River of southern Alberta, was officially opened in the spring of 1914 by the President of the C.P.R. By this act water was diverted from the river to flow through canals and ditches that would irrigate a great expanse of arid, barren prairie plains. Developed by the C.P.R. at a cost of $47.00 per irrigable acre, the project was designed primarily to increase the volume of railway traffic by settling areas adjacent to the main line, but which were considered unsuitable for dryland farming.

Over the years, the colony, known as the C.P.R. Irrigation Project, Eastern Section, was gradually occupied by settlers, with irrigable land selling in the neighborhood of $50.00 per acre and dry at $10.00 per acre. Such prices proved to be considerably higher than returns from the land would justify and after many years of deficit operation the railway company paid the farmers of the area a substantial sum to take the project off their hands. No return was ever realized on capital invested in the original development of the area.

In 1935, in accordance with the *Irrigation Districts Act (Alberta)* an *Act to Incorporate the Eastern Irrigation District* was drawn up by the provincial government and the C.P.R. withdrew, turning the entire area, along with all irrigation works and assets, over to the farmers. Under the Act the E.I.D. was to be run by a Board of Trustees (now five in number) elected by the farmers of the District from amongst their own numbers without consideration to location within the District. This group in responsible for developing the broad policy, within the terms of the *Irrigation Districts Act,* under which the District will operate. To implement policy the trustees hire a manager who has charge of actual administration and whose appointment must be approved by the Alberta Irrigation Council. To maintain closer contact between farmer and trustee contact men are situated throughout the District and are elected by the farmers of the communities which they represent to act as spokesmen to the trustees or manager.

Cost of operation of the District is paid by an annual water charge levied against each contract holder (land owner), the rate being determined by the Board of Trustees prior to the commencement of each operating year and after the manager has placed before them the estimated cost of operation for the year to follow (Table 1). Since 1940 a fee of ten cents an acre to cover hail risk has been included in the water charge, the coverage being great enough, in case of damage, to pay the unfortunate farmer's water rent and land taxes for the current year.

Table 1.—E.I.D. Water Rates Per Irrigable Acre, 1936-48[a]

Year	Water Charge	Year	Water Charge
	dollars		dollars
1936	1.75	1943	1.60
1937	1.75	1944	1.60
1938	1.75	1945	1.70
1939	1.60	1946	1.75
1940	1.60	1947	1.80
1941	1.70	1948	2.00
1942	1.75		

[a] E.I.D. Annual Report for 1948.

The topography of the area is such that the irrigable portion is divided into eight more or less distinct major blocks of relatively level land situated amongst ranges of low hills, rough land or land otherwise unsuitable for any purpose other than grazing.

The relatively level land is not uniformly even. Out of 508 acres on the average farm in the E.I.D. only 189 were classified as irrigable with an additional 13 acres being farmed dry, i.e. 202 acres of cropland. It would be better described as less rough and rolling than that portion classified as non-irrigable. Much of it, before it can be irrigated with any ease or with the necessary speed, requires considerable effort in cutting off knolls that are above the water line; in filling in depressions; in building dirt flumes between spots of higher elevation that are separated by a miniature valley or in annual floating (smoothing) operations designed to remove tractor tracks, plough furrows, etc. in order that irrigation water will spread rapidly and uniformly. In the early development of the colony extensive land levelling operations were a slow tedious process with fresno and four horse outfits. In recent years the District has acquired large earth moving equipment that the individual farmer can hire to do, in comparatively few hours, any of the larger jobs.

Almost all irrigating is done by the ditch method by which small ditches are run across the fields on the crest of the higher elevations after the crop is seeded, and the land between is flooded from the ditches. Of late years a few rotary sprinkler systems have been introduced but have not yet been in use long enough to have had a thorough test.

Climatically the E.I.D. is ideally situated for an irrigation project. The elevation above sea level is 1,000 feet less than that of Calgary (3,437 feet) 125 miles to the west. According to the records of the Provincial Horticultural Station at Brooks annual average precipitation is 12·4 inches, and annual average temperature reaches a maximum of 99 degrees F., with an average minimum of — 33 degrees F. A warm dry west-to-east wind is a very common part of weather conditions. The low precipitation rate coupled with conditions conducive to a high rate of evaporation makes the area very arid. Average length of the growing season is 141 days.

The E.I.D. is located entirely within the Short Grass Plains area of Alberta which is characterized by a light brown soil and indefinite sub-soil horizon. Within the District, however, while the light brown soil class holds generally, soil types vary considerably from light sands to silty loams with little predictable uniformity. While alkali is fairly common, it is not very extensive on the whole, due perhaps to a good and improving network of drainage ditches.

Of greater concern is the growth of willows on ditch banks and of aquatic weeds in stream beds which interfere considerably with the free flow of water in the ditches. The willows too, constantly encroach on cultivated land adjacent to the ditches. In recent years considerable success has been achieved in control of willows by spraying them with chemical dust from low-flying aeroplanes.

Brooks, with a population of 2,500, is the locale of the headquarters of the District. Population of this centre and of other towns in the area is largely employed in E.I.D. operations or is indirectly dependent on serving surrounding farm communities. An attempt to establish a sugar factory failed. Two seed houses, a potato cellar, two creameries and a few other minor establishments absorb a portion of the area's production. In contrast to some other irrigation districts, little industry devoted to the handling of farm produce has been established. Although commodities of a less bulky nature, such as specialty seeds and meat products, may profitably be shipped to distant markets, cost of overland shipping prohibits long distance hauls of more bulky produce such as potatoes unless a considerable premium can be realized on their sale. Producers must look outside the District to find adequate markets to dispose of

Table 2.—Distance to Urban Domestic Markets[a]

From Brooks to	Distance	From Brooks to	Distance
	miles		miles
Calgary	127	Medicine Hat	67
Edmonton (via Calgary)	314	Regina	388
Saskatoon (via Regina)	423	Winnipeg	763

[a] Province of Alberta official road map.

their surplus products (Table 2) in such centres as Winnipeg, Regina, Calgary, Edmonton, Saskatoon, and other towns. Good transportation is provided by truck or railroad with both the Trans-Canada Highway and the main line of the C.P.R. passing through the central portion of the area.

The E.I.D. at present must rely on less intensive forms of agriculture, placing their produce directly on the market in its natural form. A survey conducted in Alberta irrigation districts in the summer of 1949 showed grain farming to be the most common form of agricultural enterprise in the E.I.D. Following closely, and because of the large expanses of grazing land conveniently accessible, was the livestock type farm. The mixed type of farm was less common than the livestock type and only a few farmers from the E.I.D. sample were found to engage to any extent in raising specialized crops. Predominance of the grain type farm would seem to emphasize the lack of outlet for produce of intensive forms of culture. Even those specialized crops raised were largely of a type grown by extensive cultural methods and which required no processing before reaching the consumer market. Other factors tending to increase this dominance were the relatively good financial returns for grain crops over the past few years as compared to the additional returns possible via stock feeding, and the guaranteed price offered for wheat and flax.

Abundant grazing land is important to the livestock farmer in this area. By gross returns from livestock and livestock products, 25 of the 56 producers could be classified as beef producers with another three as sheep men; 19 as hog farmers; two in dairy enterprises and the remainder in a combination of

Table 3.—Distribution of Farms by Type in Sample from Five Irrigation Districts

Farm Type	Eastern Irrigation District		Canada Land and Irrigation Company		Taber Irrigation District		Lethbridge Northern Irrigation District		St. Mary's—Milk River Development	
	Farms in Sample		Farms in Sample		Farms in Sample		Farms in Sample		Farms in Sample	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Grain	59	42	17	47	1	5	34	40	20	36
Livestock	56	40	5	14	....	....	5	6	8	14
Mixed	20	14	13	36	1	5	19	22	13	23
Specialty	5	4	1	3	18	90	28	32	15	27
Number in sample	140	100	36	100	20	100	86	100	56	100

livestock enterprises. Half of the livestock type sample obtained in the survey was engaged in an enterprise requiring extensive grazing facilities. Quantity of grazing land rented, owned or leased by this group varied from participation in a community pasture to a 20,000 acre lease. The strong trend toward livestock farming in the E.I.D. (Table 3), may be explained by the fact that in this area dry land is fit only for grazing purposes.

Other minor enterprises are fishing and hunting. Lake Newell, a man-made storage reservoir a few miles south of Brooks, abounds in whitefish and a considerable number of District farmers and others earn a winter-time living catching fish for eastern and U.S.A. markets. Ducks, geese and pheasants thrive in large numbers on grain and hunters from all over Canada and the U.S.A. gather every fall in the Eastern Irrigation District.

As to the future of the E.I.D., availability of markets looms as a limiting factor whatever course is followed as a choice of farm enterprise. Of the five irrigation districts studied the average labour income[1] of the E.I.D. farmers was approximately $700.00 less than that of the District which placed fourth. If the E.I.D. is to increase the level of returns to the farmer to a par with that realized by such areas as Taber, St. Mary's-Milk River Development or the Lethbridge Northern Irrigation District, industries processing agricultural produce must be established; but this is not feasible unless or until markets are available for the output of such factories. A ten year crop census of the area (Table 4) indicates a trend in this direction but until conditions mentioned above are realized any such trend will be limited to higher return-per-acre

Table 4.—E.I.D. Crop Census by Acreage 1939-1948

Item	1939	1940	1941	1942	1943	1945	1948
				acres			
Wheat	44,096	56,329	30,149	24,596	14,012	28,358	41,791
Oats	12,068	15,112	20,781	25,260	24,222	24,990	16,852
Barley	8,520	12,069	16,101	21,545	20,594	15,747	13,314
Mixed Grain	3,042	7,132	12,746	14,486	11,828	7,003	2,759
Rye	65	153	174	752	221	318	1,457
Flax	6,988	19,317	20,221	14,381	13,843	6,915	23,528
Peas (seed)	659	2,171	3,100	4,684	4,582	5,863	4,528
Beans	10	95	198	376	[a]	10	[a]
Corn	27	69	43	56	[a]	25	78
Potatoes	8	114	222	358	789	1,457	1,371
Garden Produce	401	476	706	[a]	566	791	769
Alfalfa Seed	1,823	2,080	3,252	6,150	11,570	10,464	3,645
Alsike Seed	342	224	188	[a]	186	326	721
Sweet Clover Seed	59	86	157	[a]	1,278	2,406	1,902
Other small seed	48	62	15	231	[a]	286	[a]
Alfalfa Hay	16,234[b]	17,892[b]	16,912[b]	19,984	17,992	24,423	21,220
Sweet Clover Hay	1,300	930	1,096	782	1,309	430	1,984
Green Feed	388	1,270	2,049	1,792	8,201	2,299	2,488
Pasture (tame)	[a]	2,100	3,587	5,136	7,041	8,108	7,124
Summer Fallow	[a]	11,906	24,697	17,788	29,423[c]	23,606[c]	26,714[c]
Total Acreage (includes dry land).	96,078	149,587	156,394	158,357	167,657	163,825	172,245

SOURCE: Ditchrider Census (E.I.D.)
[a] No figures obtainable.
[b] Includes acres of hay of miscellaneous nature.
[c] Includes idle land.

---

[1] Labour income is computed as follows: gross income, including increases in inventory, less cash expenses, any decreases in inventory, depreciation on capital goods, estimated value of unpaid family labour and interest on total farm capital.

crops that can be placed on the market in their natural state. Minor disruptions in the crop trend in recent years might be attributed to guaranteed postwar wheat prices and to guaranteed flax prices in 1947 and 1948.

A decline in grain prices may see a greater shift toward livestock production and feeding. This shift too would possibly be limited to feeder enterprises or to other forms requiring little in the way of grazing facilities as land of this description within the District is already largely bought up or under lease to present operators or has been established as community pastures.

FUNCTIONS OF CO-OPERATIVE ASSOCIATIONS IN CANADA, 1948

J. E. O'MEARA

Classification of co-operatives into the various functions they perform is not an easy task in these days when co-operative techniques and principles are continually being adapted to practically all forms of economic and social endeavour. In order adequately to assess co-operative business and its position in relation to the Canadian economy some classification is essential.

Twenty years ago the problem of classification was relatively simple with only two types of co-operative generally recognized—producers' and consumers'. To-day such a simple division of function is quite inadequate. The widespread organization of the so-called "multi-purpose" co-operative has served to complicate the job of classification. Housing co-operatives, insurance of all kinds, community halls, and propaganda groups are now organized as co-operatives and do not fall readily into the broad division of producer and consumer. The Canadian wheat pools were at one time definitely farmers' co-operative grain marketing organizations but to-day they are marketing livestock and seeds as well. They are manufacturing flour and processing other products of their members. They own their own printing plant and insurance company. Some predominantly marketing groups have been increasing their sales of farmers' supplies and then expanded to provide such services as cold storage lockers, trucking, custom grinding of feeds and killing of poultry and hatching of eggs. Having done all this there are some which now handle clothing, dry goods, groceries, furniture and hardware.

Thus there is a tendency on the part of co-operatives to venture into any field where the needs of the members can be efficiently served and the problem of classification grows steadily more complex.

Co-operative data on file in the Economics Division are divided into three groups: (1) Marketing, (2) Merchandising and (3) Service. These divisions are used to cover the commercial activities of Canadian Co-operatives. The many co-operatives which do not fit into any of these functions are difficult to place in such a way that they can be effectively analysed. Farm machinery co-operatives, co-operative farms, bargaining co-operatives etc. are examples of this type.

However, these types are not too numerous as yet but they will sooner or later have to be recognized and given their proper place in any statement of co-operative activity in this country. An attempt has been made to classify all business or commercial co-operatives into their major function from an examination of their reports of business operations. Nearly 3,500 co-operatives supplied this information on their 1948 operations and of this number 1,577 are purchasing co-operatives and 1,278 are marketing co-operatives. At least these are their major functions. Many of these are also engaged in other activities but their main business, as measured by sales volume of either farm products or consumer or producer goods, is as indicated above.

Co-operatives engaged mainly in wholesaling numbered eleven and there were 502 service co-operatives, 28 production co-operatives (all in Saskatchewan) and three engaged in manufacturing.

According to the records Quebec has more commercial co-operatives than any other province with 1,047 followed by Saskatchewan with 723 and Ontario with 603. Quebec leads all provinces in marketing co-operatives with 489 and Ontario is next with 310. Saskatchewan has 571 purchasing co-operatives followed by Quebec with 355.

The pattern varies from province to province. In Prince Edward Island, essentially an agricultural province with exportable surpluses of furs, potatoes and poultry products, there are three times as many marketing as purchasing co-operatives. In Nova Scotia there are 85 marketing co-operatives and 80 purchasing co-operatives which reflects co-operative organization among the fruit-growers and dairy and poultry-men and the organization among the industrial groups in Cape Breton and in the eastern part of the province where farmers are more concerned with purchasing farm supplies than in marketing surplus. In New Brunswick there are more co-operatives engaged in purchasing than in marketing.

Records show 123 purchasing co-operatives in Manitoba compared with 46 engaged in marketing but the Manitoba Pool Elevators is considered as only one co-operative even though each of its many locals is regularly incorporated. This is done to keep the data for the three western wheat pools on a comparable basis.

In British Columbia the emphasis is on marketing co-operatives reflecting again the organization of farmers into co-operatives for the disposal of surpluses especially in tree fruits, small fruits, vegetables, livestock and dairy products. Purchasing co-operatives number 80. Many of these are in the rural areas but most are in the industrial urban centres and some in the coastal fishery centres. The majority are of recent origin and are the result of the increased interest in purchasing co-operatives noted during the last ten years.

During 1949, for the first year since the end of the war, the rate of new families formed in Canada showed a notable decline. A small decline in the natural increase —marriages were down 2,760—was supplemented by a decrease of 4,300 in the number of immigrant married females. The full effect of this decrease in immigration was partially offset by a decrease in emigration. Emigration of married females at 6,200 for 1949 decreased 7 per cent from 1948. Deaths changed little during the period.

House completions in 1949, numbering about 91,000, set a new annual peak, and for the first time since the prewar period exceeded net family formation by at least 11,000. Of equal importance, however, to the record number of completions was the fact that starts levelled off in 1949, to about 93,000 as against 95,000 in 1948. During the second and third quarters of 1949 starts were notably lower than in the corresponding period of 1948, but exceeded the level of 1948 in the first and last quarters.

Of the 91,000 houses completed in 1949, 88,000 were new permanent dwellings while 3,000 units resulted from housing conversions. The trend towards a higher proportion of permanent housing which was established in 1948 continued during 1949 and the number of conversions decreased by about 2,000 units.

TRENDS IN CANADIAN DAIRYING

M. RACHLIS

The sale of dairy products contributes 200 to 300 million dollars annually to the total cash income of Canadian farmers. The income from dairying is exceeded only by that derived from wheat and from livestock and is about twice that received from farm sales of poultry and eggs and nearly four times that from fruits and vegetables. Cash income from dairying does not include receipts from veal calves or sales of dairy cattle for slaughter. If these were included, it is probable that since 1940, dairy income would exceed the income from sales of wheat (Table 1).

Table 1.—Cash Income From the Sale of Some Farm Products as a Per Cent of Total Cash Income From All Farm Products, Canada, 1926-48[a]

—	Dairy Products	Fruits and Vegetables	Poultry and Eggs	Wheat	Livestock[b]
	per cent of total farm cash income				
1926–29	12·2	3·1	6·2	41·4	22·4
1930–34	17·3	5·9	8·4	28·6	25·5
1935–39	17·0	5·4	7·1	27·6	28·4
1940–44	17·0	4·8	7·8	19·6	34·5
1945–48	16·2	4·6	8·2	18·1	31·9

[a] Canada. Dept. of Trade & Commerce, Dominion Bureau of Statistics, Agriculture Division. *Cash Income from the Sale of Farm Products.* Ottawa. Annual reports. 1926 to 1948.
[b] Including poultry.

Dairying and Non-Agricultural Industries.—The dairy industry is one of the leading manufacturing industries of Canada as well as an important agricultural enterprise. The gross value of dairy production exceeded that of the pulp and paper industry until the recent post-war period; was twice that of the automobile industry and about four times that of the total production of gold and silver combined (Table 2). Among all the industries of Canada, both agricultural and non-agricultural, dairying ranks amongst the first three in gross value of produce.

Table 2.—Gross Value of Production of the Dairy Industry[a] **and of Some Non-Agricultural Industries**[b]**, Canada, Selected Years, 1922-47**

—	Dairy Production	Gold and Silver	Automobiles	Electrical Apparatus and Supplies	Pulp and Paper
	million dollars				
1922	204	38	[c]	[c]	159
1929	234	52	177	114	244
1933	162	90	43	37	123
1937	215	153	135	99	226
1939	217	193	107	89	208
1943	375	148	352	246	344
1945	400	109	229	230	399
1946	424	114	193	234	528
1947	532	114	341	366	707

Canada, Dept. of Trade & Commerce, Dominion Bureau of Statistics:
[a] *Dairying statistics of Canada.* Ottawa. Annual reports.
[b] *The Manufacturing Industries of Canada.* Ottawa. Annual reports.
[c] Not available.

Table 3.—Milk Production in Canada, by Geographic Regions, Selected Years 1920–48

—	Canada	Maritimes	Central Canada	Prairie Provinces	British Columbia
	million pounds of milk				
1920	10,603	972	7,165	2,257	209
1925	13,421	1,085	8,508	3,493	337
1930	13,071	982	8,387	3,325	377
1935	14,561	961	8,930	4,164	506
1940	15,999	983	9,800	4,680	536
1945	17,627	1,096	10,969	4,921	641
1948	16,645	1,077	10,270	4,666	632

Dairying in Other Countries and in Canada.—The organization of the dairy industry varies widely among different countries. In the United States the industry is organized to supply domestic requirements of dairy products. About 50 per cent of the supply is consumed as fluid milk and exports consist largely of concentrated milk products.

The Australian dairy industry is based on the production of butter. More than 65 per cent of the milk supply is used for butter while only about 20 per cent is consumed in the liquid form. Unlike the United States, the industry depends on the export market for a large part of its income. About 41 per cent of the butter and 36 per cent of the cheese and concentrated milk products are exported, mainly to Great Britain.

Dairying in New Zealand is to a large degree an export industry. The two principal products are butter and cheese. About 64 per cent of the milk supply is used for butter and about 19 per cent for cheese. Seventy-eight per cent of the butter and 86 per cent of the cheese are exported mainly to the United Kingdom. Exports account for more than half the milk production of New Zealand.

The organization of the Canadian dairy industry resembles that of the United States. The bulk of the milk supply is used domestically and only a small proportion (about 6 to 8 per cent) is exported. About 34 per cent of the milk is consumed in the fluid form and 47 per cent is manufactured into butter, all of which is consumed domestically. The gradually shrinking surplus of milk is exported as cheese and concentrated products.

Trends in Production of Milk.—Canadian milk production increased steadily from 10·6 billion pounds in 1920 to 17·5 billion pounds in 1942. Between 1942 and 1945 the rate of increase levelled off and since 1945 a slight decline in production has been apparent (Table 3). Central Canada is the

Table 4.—Numbers of Milk Cows and Production of Milk Per Cow, Canada, 1920–48

—	Number of Milk Cows	Production of Milk Per Cow
	thousand head	pounds
1920–24	3,123	3,905
1925–29	3,304	3,930
1930–34	3,550	3,941
1935–39	3,780	4,043
1940–44	3,736	4,559
1945–48	3,777	4,530
Per Cent Change 1920–24 to 1945–48	+20·9	+16·0

Table 5.—Relationship Between Milk Production and Population, in Canada, 1920-48

—	Milk Production		Domestic Disappearance of All Dairy Products as Milk		Per Cent of Milk Supply Exported
	Total	Per Capita	Total	Per Capita	
	million pounds	pounds	million pounds	pounds	per cent
1920–24	12,195	1,373	10,210	1,146	16·3
1925–29	12,986	1,346	11,501	1,192	11·4
1930–34	13,989	1,333	13,101	1,248	6·3
1935–39	15,284	1,383	14,330	1,297	6·2
1940–44	17,036	1,485	15,447	1,347	9·3
1945–48	17,117	1,393	16,108	1,311	6·4
Per Cent Change 1920–24 to 1945–48	+40·4	+1·4	+57·8	+14·4	

major producing area and accounts for about 62 per cent of Canada's production. The Prairie Provinces follow with 28 per cent, while the Maritime Provinces and British Columbia together produce 10 per cent of the total milk supply.

Increased milk production in Canada is due to the increase in the number of milk cows and in the production of milk per cow. The numbers of milk cows and output per cow are subject to cyclical variation but the secular trend has been upward (Table 4). In the period 1920-24 there were 100 cows for every 280 persons. More recently (1945-48) there were 100 cows for every 330 persons.

There has been an increase of 40 per cent in total milk production between the periods 1920-24 and 1945-48, but at the same time there has also been an increase of 40 per cent in the population of Canada. However, there has been a gradual decline in the quantity of milk available for export (Table 5) as a result of the greater per capita domestic disappearance of dairy products.

Trends in Utilization and Consumption.—The pattern of Canadian milk utilization has changed gradually since 1920 (Table 6). Fluid consumption of milk has increased greatly, particularly between 1938 and 1948 and the concentrated milk industry has developed in importance as a phase of dairying. At the same time, the proportion of the milk supply used in the manufacture of cheese has declined although the industry still uses more than double the quantity of whole milk used by concentrated milk plants.

Table 6.—Percentage Utilization of Milk in Canada, 1920-48

—	Per Cent of Milk Supply Utilized For				
	All Butter	Factory Cheese	Concentrated Whole Milk	Fluid Sales	Farm[a] Use
1920–24	48·8	13·7	1·4	14·2	35·3
1925–29	49·4	12·9	1·5	14·2	33·5
1930–34	52·6	9·0	1·2	19·2	27·8
1935–39	53·3	8·8	1·7	18·8	25·6
1940–44	49·5	11·2	3·1	20·1	19·9
1945–48	46·8	9·0	4·0	24·0	17·7

[a] Includes farm butter, farm cheese and farm home consumption only.

The growth of Canada's population has resulted in an increasing demand for dairy products. However, the domestic demand for milk is the result, not only of population increase but also of changing habits of consumption. The increased urbanization of Canada's population has resulted in both increased fluid sales, and decreased farm use of milk for butter, cheese and fluid use (excluding that fed to livestock).

The most important increase in consumption in relation to total volume of production has been in fluid milk and cream. Part of this change is due to the more widespread knowledge of the nutritional value of fluid milk and part to the high levels of employment and income of the last decade. However, the upward trend was apparent previous to 1939 and the major part of the increase is probably permanent (Table 7).

Table 7.—Per Capita Consumption of Dairy Products in Canada, 1920-48

—	Butter	Cheese	Fluid Milk and Cream	Ice Cream	Concentrated	
					Whole Milk Products	By-products
	pounds			gallons	pounds	
1920–24	27·11	2·96	372	0·61	...	...
1925–29	29·38	3·54	381	0·80	...	...
1930–34	30·24	3·50	391	0·69	...	...
1935–39	30·95	3·68	400	0·76	6·88	2·68
1940–44	31·33	4·37	438	1·31	12·72	3·51
1945–48	28·04	4·60	461	1·63	15·66	4·24
Per Cent Change 1920–24 to 1945–48	+3·4	+55·4	+23·9	+167·2	+127·6[a]	+58·2[a]

[a] 1935–39 to 1945–48

Rationing slowed the pre-war upward trend in butter consumption. At present the competition of margarine and other oils and fats is also a factor in the reduced consumption of butter. Since the trend in the western hemisphere is towards an increase in the use of fresh fluid milk and concentrated milk products, partly at the expense of butter, it is doubtful whether Canadian per capita butter consumption will recover to pre-war levels.

Large increases have occurred in the consumption of concentrated milk products. The most important of this group of products is evaporated whole milk, the use of which has more than trebled in the past ten years. Small increases are also apparent in the consumption of dry skim milk and condensed whole milk. Although a large part of these increases occurred during and since World War II, the upward trend was apparent prior to the war and it is probable that the major portion of these increases will be permanent. The recent improvements in the quality of this group of products and their wide acceptance in infant feeding and household use tends to confirm such a view.

Cheese consumption, always low in Canada, has increased appreciably in the last decade. However, even at the present level Canadians eat relatively little cheese. The rate of ice cream consumption shows a very large increase in the war and post-war period but the demand for this product tends to vary relatively widely as economic conditions change, and the present increase may be largely temporary.

Export Trade in Dairy Products.—Canada's export trade in dairy products in terms of milk has been gradually shrinking since 1920. During World War II, producer subsidies and rationing, designed to fulfill the increased overseas demand, disturbed this trend temporarily and the volume of dairy exports increased. In the period 1920-24 Canada exported the equivalent of about 2·0 billion pounds of milk annually. By the 1935-39 period exports were the equivalent of only 1·0 billion pounds of milk, and in the post-war period 1945-48, they have shrunk to 0·8 billion pounds of milk.

Canada's exports of dairy products consist almost entirely of cheese and concentrated milk products (Table 8). Cheese has been the major export both in terms of milk and in dollar value. However, recently the value of exports of concentrated milk products has been almost equal to that of cheese. Butter has been a minor export item and between 1920 and 1948 imports have been approximately equal to exports.

Table 8.—Value of Dairy Products Exported as a Percentage of Total Value of Dairy Exports, 1920-48

—	Cheese	Concentrated Products	Butter	Fluid Milk and Cream	Average Total Value
	per cent				million dollars
1920–24	63·1	13·0	15·0	8·8	42·6
1925–29	63·2	10·5	7·9	18·3	39·7
1930–34	71·3	17·2	6·5	4·8	13·3
1935–39	71·4	18·3	10·0	[a]	15·4
1940–44	75·0	20·0	4·9	[a]	29·4
1945–48	57·9	36·4	5·0	[a]	30·6

[a] Less than 0·5 per cent.

Large quantities of fluid milk and cream were exported to the north-eastern section of the United States during the nineteen-twenties. Tariffs and state health regulations cut off this trade and it has not been resumed since that time. Should this trade be resumed it would probably result either in a diversion of milk from cheese factories and concentrated milk plants or in an increase in milk production in Quebec and eastern Ontario.

Outlook.—Recent trends indicate that domestic consumption of all dairy products in terms of milk is increasing at a more rapid rate than production. If employment and income remain at a high level and the existing price relationships between dairy products remain relatively stable, domestic consumption will slowly overtake production.

A 1949 sample survey conducted by the Dominion Bureau of Statistics reveals the number of households in Canada possessing household radios and car radios and the extent of household electrification up to October 29, 1949. An estimated 89 per cent of farm dwellings had household radios, whereas in 1941 there were radios in only 61 per cent of farm dwellings. The comparative figures in metropolitan areas are: 95 per cent with household radios in 1949 and 91 per cent in 1941.

The number of homes with electricity also shows a marked increase over the 1941 figure. In 1949 an estimated 50 per cent of farm homes were equipped with electricity, with home generators supplying the power in about 10 per cent of the dwellings. Only 20 per cent of farm houses were equipped with electricity in 1941. In metropolitan areas the percentage of homes with electricity increased from 99 per cent in 1941 to 100 per cent in 1949.

SEASONAL VARIATION IN EGG PRICES[1]

G. MURRAY AND G. WOOLLAM

Shell eggs vary widely in price during the year because they are perishable and are seasonally produced. Wholesale prices during the season of scarce production are frequently double those received in the heavy production period. The price movement from month to month is indicated in a seasonal index which is a useful guide to the poultry industry.

A seasonal index has several limiting factors which must be considered before it can be properly interpreted. An index is an average of what has happened in the past and as a consequence, changes taking place within the industry and trends that may be developing are hidden. Fluctuations about the average are often large and no attempt has been made to measure these deviations.

SEASONAL INDEXES OF WHOLESALE PRICES OF GRADE A LARGE EGGS MONTREAL

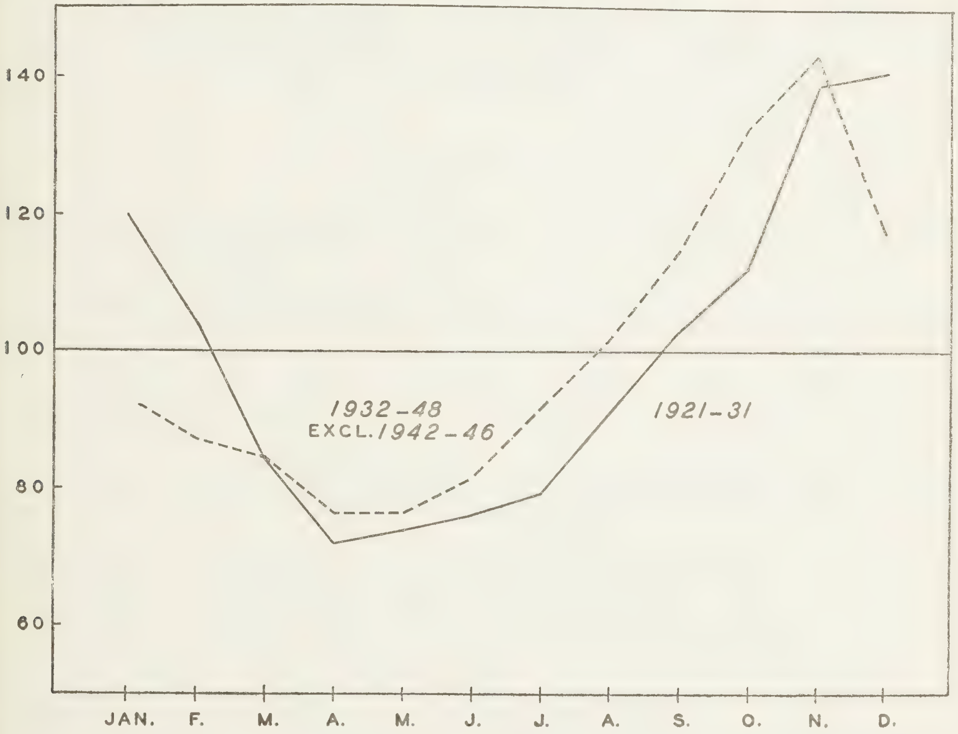


CHART 1

The seasonal index of egg prices has been changing slowly but constantly during the period 1921 to 1948. In order to illustrate the effect of these changes on the seasonal pattern, an index for two separate time periods was plotted.

---

[1] For earlier articles on seasonal variation and the statistical technique used in this article see: "Seasonal Variation of Prices of Cattle and Dressed Beef", *The Economic Annalist*, Feb. 1949, p. 9; "Trends in the Seasonal Variation of Cattle and Dressed Beef Prices", *The Economic Annalist*, Dec. 1949, p. 136; "Seasonal Variation in Butter Prices", *The Economic Annalist*, Dec. 1949, p. 139.

The first index shows the average seasonal variation of prices of Grade A Large eggs at Montreal for the period 1921 to 1931 and the second index shows the seasonal price variation for the period 1932 to 1948 from which the years of wartime controls have been excluded.

The differences between the two series are shown in Chart I. It will be noted that the period of high prices has shifted from December to November during recent years and that the downward seasonal movement is less pronounced during the later period than during the 1920's. In order that the seasonal index for the later period be an adequate guide to the industry in planning their production and marketing programs, the rates of change in the price pattern must be known.

TRENDS IN SEASONAL VARIATIONS OF WHOLESALE PRICES OF GRADE A LARGE EGGS MONTREAL

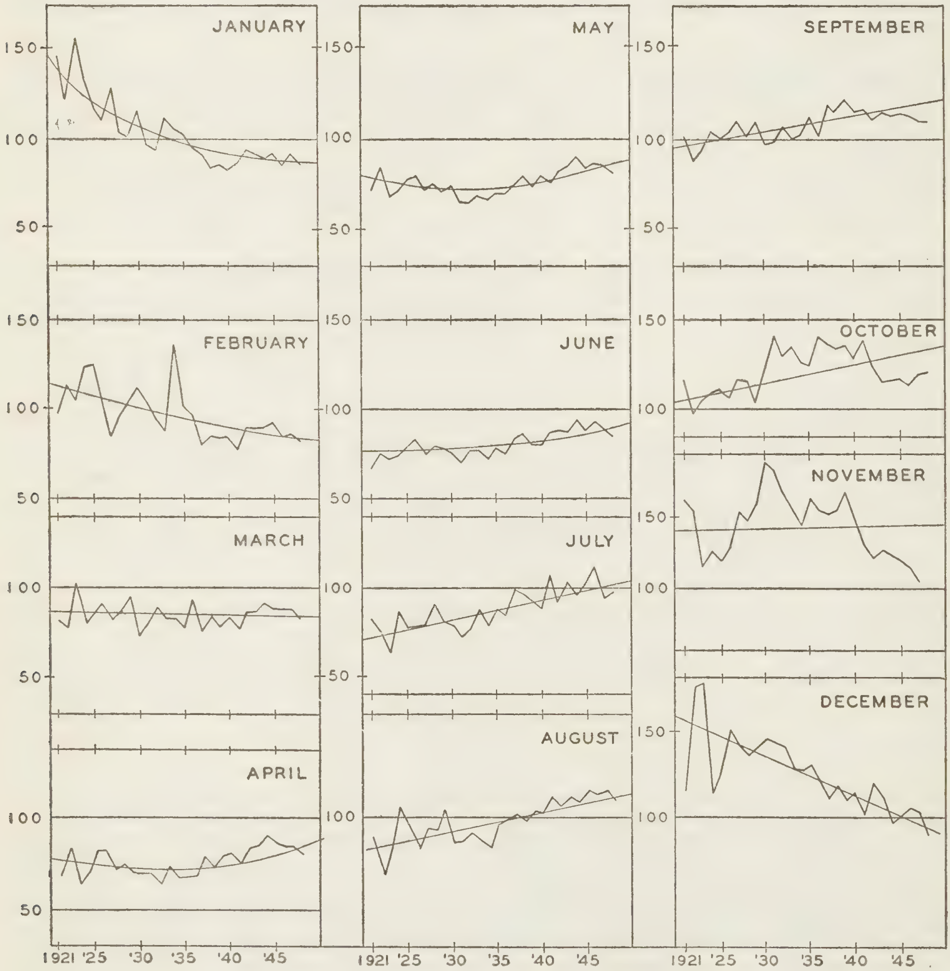


CHART 2

Chart II presents the trends that have taken place during the period under consideration in the seasonal price for each of the twelve months. The January and December seasonal price trend has declined rapidly with February and March showing a slow downward adjustment. During the period of surplus production the trend varied slightly, but for each of the months from June to October the seasonal trend has shown a steady upward movement during the period 1921-1948. Wide variations in prices during November have taken place with no particular trend discernible.

The principal factor causing the trend in the overall pattern of wholesale prices of eggs in Montreal is the continual change that is taking place in production practices within the industry. Rapid advances in methods of hatching eggs have probably made the greatest contribution. Producers have been able to purchase early chicks which has enabled them to take advantage of higher seasonal prices of eggs. The introduction of improved feeding and breeding techniques has resulted in a longer and more uniform productive season per hen, thereby contributing further to the gradual change that has taken place in the seasonal price pattern.

The index in itself is not sufficient as a guide for future month-to-month forecasting. The index represents what has happened generally in the past over a period of years. The price trends together with other factors must be considered. Changes in storage techniques developed in World War II have not yet affected the domestic market but should be considered as a factor in the future. Recent developments in Canadian agricultural policy and the increased domestic consumption of eggs in Canada are important factors that must be considered when using the index of seasonal variation in egg prices.

REVIEW OF LITERATURE

National and International Measures for Full Employment. Prepared by the United Nationals Dept. of Economic Affairs. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto). Dec. 1949. pp. vii + 104.

Relative Prices of Exports and Imports of Under-Developed Countries. Prepared by the United Nations Dept. of Economic Affairs. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto). Dec. 1949. pp. viii + 156.

Economic Survey of Latin America 1948. Prepared by the United Nations Dept. of Economic Affairs. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto). 1949. pp. xx + 279.

The United Nations through its member bodies is making a great contribution to current economic knowledge. These reports have both practical and academic value. They raise questions and suggest in many instances some of the answers.

Thus in December 1949 a master plan for combatting unemployment crises through world-wide action on the national and international levels has been released by the Secretary-General of the United Nations. The report was prepared by a small group of experts appointed by the Secretary-General.

The report is divided into three parts. Part I analyzes the nature of the full employment obligation undertaken by Member Governments in signing the Charter of the United Nations, and gives a brief account of the economic background against which full employment policies must be considered at the present time. Part II analyzes the ways in which cyclical fluctuations in economic activity can occur and the manner in which fluctuations that originate in one country tend to be spread to others. This is followed by a general review of the domestic and international aspects of the full employment problem, thus setting out the considerations leading up to the recommendations. In Part III the experts make five main recommendations for domestic measures, and three main recommendations regarding international measures to achieve full employment.

On the domestic side, it is recommended that each government should:

1. Adopt and announce a full employment target.
2. Announce a comprehensive program for the continuing achievement of the full employment objective.

3. Adopt and announce a system of compensatory measures in case its general program for maintaining full employment falls short of the target.
4. Announce the nature of policies for stabilizing prices.
5. Adapt its legislative and administrative procedures for the implementation of the above program.

On the international side, it is recommended that governments should:

1. Establish a program, through consultation under the auspices of the Economic and Social Council, to eliminate the present structural disequilibrium in world trade.
2. Create a stable flow of international investment to be channelled largely through the International Bank for Reconstruction and Development, to the under-developed areas.
3. Adopt a scheme, to be operated through the International Monetary Fund, whereby the international propagation of deflationary pressures may be effectively prevented.

The maintenance of full employment creates different problems for developed and under-developed countries. The United Nations made a study on the post-war rise in the prices of goods imported by under-developed countries—especially capital goods, such as machinery and equipment—compared with the post-war price increase of the exports of under-developed countries, consisting almost entirely of primary commodities.

The study comprises six parts: 1. Introduction; II. Summary; III. Price trends of various classes of commodities; IV. Terms of trade of individual under-developed countries; V. Price relations in trade of industrial countries; VI. Relation of terms of trade to economic development. There are also four appendices: (A) Statistical problems in measuring terms of trade; (B) Analysis of United States trade by class of goods and destination; (C) Prices of United States exports of capital goods; (D) Postwar changes in important exports of selected under-developed countries.

While the prices of primary commodities have tended to increase more than the prices of manufactured goods since the immediate prewar period, the conclusion is reached that the terms of trade of under-developed countries in their relation with industrialized countries have failed to show an improvement. The view is expressed that some kind of international action would seem to be a prerequisite, in order to improve, or merely to stabilize, price relations of under-developed countries.

The above reports covered the world. The Economic Survey of Latin America is more specific and is the first comprehensive review of the economic situation in Latin America to be issued by the Secretariat of the Economic Commission for Latin America.

The Survey comprises two parts: Part One, "Trends in Production", presents the salient features of industrial and agricultural development; Part Two, "Other Economic Aspects", discusses the way in which this development affects other aspects of the economy—especially foreign trade, balance of payments, and the inflationary process. It contains more than one hundred tables, and numerous charts and appendices.

Industrialization has taken place without in any way prejudicing agriculture or primary production in general. Agriculture has continued to develop, but the rate of industrial growth has surpassed it and has contributed more directly to the improved standard of living. Technical progress makes it possible to increase primary production without a corresponding increase in employment, and therefore provides one of the main sources of manpower for industry.

Due to the prevailing economic structure of Latin America, industrial development requires large imports of capital goods, and it is the outstanding role of exports to provide, ultimately, the principal means of acquiring these goods. Yet, in 1947, the volume of Latin American exports was only 16 per cent more than ten years earlier, while population in the same period increased by 23 per cent. Furthermore, the present relation between the prices of primary products exported by Latin America, and those of the finished goods imported does not appear to have improved in comparison with the 1930's.

There is also the problem of the scarcity and misdirection of savings which, in this area, is the main obstacle to the accumulation of high capital investment per man. Hence the need to resort to foreign capital in order to reach an intensive rhythm of economic growth in Latin America.

TINBERGEN, Jan and POLAK, J. J. *The Dynamics of Business Cycles.* Chicago, Univ. of Chicago Press. 1950. pp. x + 366.

Since the end of World War II, government officials and economists especially, and others in general have been on the alert against a recession, a depression, a post-war slump, or any other term that is in vogue. Economic literature has also been enriched by the publication of many books on business cycles. A recent contribution appearing in English for the first time is Tinbergen's *The Dynamics of Business Cycles.*

This book makes available in English the whole business-cycle analysis of the Dutch economist Jan Tinbergen whose work in economic dynamics has stimulated a new school of econometric research. It was translated from the Dutch and adopted for American use by J. J. Polak.

The primary declared aim of this book is analytic: to explain what is typical and common in economic movements. The book is divided into three parts. Part I is descriptive. It provides a classification of the types of economic movements or fluctuations. Part II is concerned with the explanation and causal analysis of economic fluctuations. Part III, entitled "Business Cycle Policy" is devoted to a discussion of the ways in which economic movements may be influenced—in other words to a discussion of economic policy. It is also the section of greatest interest to the policy-maker. The authors have presented their material in a non-mathematical language.

To agricultural economists, Chapter VIII is of interest. The authors deal with the hog and other agricultural cycles. The hog cycle is discussed as a specific instance of a market which is not strongly influenced by general business fluctuations but rather tends toward independent cycles. These cycles are dealt with in a discussion of "Fluctuations in Individual Markets".

The last chapter, entitled "Summary, Choice of an Optimum Policy", will be of general interest.

EMMET, Boris and JEUCK, John E. *Catalogues and Counters.* A history of Sears, Roebuck & Co. Chicago, Univ. of Chicago Press. 1950. pp. xix + 788.

This is the biography of a mail order house with a sales volume exceeding two billion dollars. This is the history of Sears, Roebuck and Company. Although this Company does not operate in Canada, farmers will be interested in how this type of business originated and grew. The 32 chapters, with its accompanying 136 tables and many charts, give a detailed account of problems and procedures, of buying and selling, personnel management, finance, organization, profit sharing, merchandise selection, instalment selling and sales promotion.

In 1949 house construction continued to compete against strong demand for other types of construction, as total outlay on new non-residential construction and major improvements increased by 7 per cent, from $1,191 million to $1,278 million. Expenditures on house construction increased more rapidly however, by 14 per cent, from $682 million to $775 million. In 1949 new residential construction, including major improvements and alterations, accounted for 35 per cent of total new construction work put in place.

NEW PUBLICATIONS BY THE ECONOMICS DIVISION

The Market for Farm Products in North-Central British Columbia. *J. C. Maxwell and E. P. Reid.* Published by the Economics Division, Marketing Service, Dept. of Agriculture. Processed Pub. Ottawa. March 1950. pp. 54.

This study presents data on farm production and the external trade of the region in the principal agricultural commodities used or produced there. Special attention has been paid to the seasonality, quantity, and value of both inward and outward shipments. The requirements of and provision for the local market have also been considered.

The field work was undertaken by the staff of the Economics Division of the Dominion Department of Agriculture, and the study was carried out in co-operation with the Department of Agricultural Economics of the University of British Columbia.

The North-Central British Columbia area under consideration consists of a narrow strip of land paralleling the Prince Rupert line of the Canadian National Railways for a distance of 375 miles. The centres of Prince George, Vanderhoof, Burns Lake, Telkwa, Smithers, Hazelton and Terrace are the chief centres of Settlement. There are 1,250 farms in the area and the total population is estimated to be 14,016.

During the summer of 1945 a record was made of the trade movements of 54 agricultural commodities. Market receipts of these products, both locally grown and brought in, were tabulated, and the outward shipments were similarly recorded. The data were collected for a twelve months' period beginning July 1, 1944 and ending June 30, 1945. Various merchants and dealers in agricultural produce co-operated in the study and the bulk of the information was obtained from the transportation companies serving the area.

Total demand, or market requirements, of the area amounted to a total of over 10,000 tons of agricultural produce, worth $1,261,937. Approximately 75 per cent of this value was made up of goods brought into the area and 25 per cent was of local origin. Produce to the value of $532,828 was shipped out of this area during the year and total commercial production of the same commodities had a value of $864,085.

The Market for Meats in Halifax, Nova Scotia, 1947-48. *W. C. Way and E. P. Reid.* Published by the Economics Division, Marketing Service, Dept. of Agriculture, in co-operation with the Nova Scotia Dept. of Agriculture and Marketing. Processed Report. Ottawa. March 1950. pp. 28.

The Nova Scotia Department of Agriculture and Marketing requested the assistance of the Economics Division of the Federal Department of Agriculture in undertaking a survey of meat marketing in Halifax and vicinity. There are no facilities for government inspection of livestock slaughtered in the Halifax market area and most of the city's meat supply moves in carcasses and cuts from either Nova Scotia country points or from packinghouses in other provinces. The purpose of the study was to collect, examine and appraise the importance of data concerning the marketing of meats by types, sources of supply, volume, seasonality and value, as indicated by wholesale prices to retailers.

Life Insurance Experience of Saskatchewan Farmers. *Gordon Haase.* Published by the Economics Division, Marketing Service, Department of Agriculture, Ottawa. Pub. 831, Tech. bul. 77. March 1950.

This study relates to the life insurance experience of Saskatchewan farmers. In a sample of Saskatchewan farms represented by 5,661 farm business records obtained between 1931 and 1946, 2,572 of the farm operators involved had made purchases of life insurance at one time or another.

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS
FRANK SHEFRIN, Editor

AUGUST 1950 **Vol. XX, No. 4**

CONTENTS

Page
The Economic Situation 75

Financing Farm Improvements 77

Land Use in the Elbow-Saskatoon Area of Central Saskatchewan
Gordon Haase 80

Agriculture at Torquay. . . . .*Margaret I. Dunbabin* 83

Livestock Feeding in Alberta. . . . .*C. M. Kline* 86

Size of Membership in Canadian Co-operatives, 1948
J. E. O'Meara 92

Measures of Relationships between Hog and Feed Prices
F. M. Schrader 92

Review of Literature 95

MARKETING SERVICE, ECONOMICS DIVISION
J. F. BOOTH, Associate Director

**Published by Authority of the Right Honourable James G. Gardiner,
Minister of Agriculture**

ANNUAL AND MONTHLY INDEX NUMBERS (a)

WHOLESALE PRICES, FARM PRICES AND LIVING COST INDEXES

Year	Wholesale Prices 1935-39=100			Farm Prices of Agricultural Products 1935-39=100	Commodities and Services used by Farmers 1935-39=100		Cost of Living 1935-39=100	
	Farm Products (b)	Field Products (c)	Animal Products (d)	(e)	Equipment and Materials (f)	Eleven Factor Index (g)	Farm Living Costs (h)	Urban Living Costs (i)
1913					85·4		80·1	79·1
1914					90·2	85·3	82·3	79·7
1915					96·9	91·6	86·5	80·7
1916					101·7	100·5	93·7	87·0
1917					140·7	140·5	111·5	102·4
1918					164·1	160·2	131·1	115·6
1919					169·1	167·9	143·0	126·5
1920					190·1	186·5	171·3	145·4
1921					147·4	152·5	139·9	129·9
1922					124·6	134·1	127·9	120·4
1923					118·3	130·6	128·3	120·7
1924					122·3	131·9	125·5	118·8
1925					123·2	131·8	123·9	119·8
1926	144·4	158·5	130·2		119·9	130·6	121·1	121·8
1927	138·6	149·4	127·8		119·9	131·2	119·8	119·9
1928	136·3	134·3	138·2		118·3	129·3	118·5	120·5
1929	140·8	137·2	144·4		117·6	127·9	117·3	121·7
1930	119·5	105·8	133·3		105·6	117·0	113·7	120·8
1931	78·9	65·0	92·7		92·2	100·9	103·9	109·1
1932	65·5	60·4	70·5		89·3	93·3	97·8	99·0
1933	69·3	69·3	69·2		88·8	89·8	95·8	94·4
1934	83·5	80·5	86·5		96·8	95·5	97·9	95·6
1935	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	165·3	160·4	170·2	184·2	125·9	152·1	123·2	119·5
1946	177·0	172·9	181·2	200·8	128·0	157·0	127·1	123·6
1947	189·7	179·1	200·2	212·5	139·5	170·4	138·3	135·5
1948	229·6	195·6	263·7	252·4	173·1	196·9	162·8	155·0
1949	(j) 225·2	(j) 184·9	(j) 265·4	250·5	180·3	201·8	173·2	160·8
1949								
June	230·2	190·5	269·9	253·7				160·5
July	231·4	193·4	269·3	253·0				162·1
Aug	225·9	182·4	269·3	252·8	180·2	204·2	174·5	162·8
Sept	222·6	182·0	263·3	248·2				162·3
Oct	219.7	181·9	257.6	245·7				162·2
Nov	222·0	180·6	259·3	244·8				161·7
Dec	219·9	179·8	259·9	245·4				161·5
1950								
Jan	217·2	180·9	253·5	238·6	184·4	196·3	175·3	161·0
Feb	219·9	180·2	259·6	242·7				161·6
Mar	224·8	183·6	266·0	246·0				163·7
April	226·8	185·6	268·0	248·9	191·2	209·9	176·7	164·0
May	229·6	186·3	272·8	249·5				164·0
June								165·4

(a) **Revised each issue.**

(b) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo). Ottawa, Monthly. Wholesale prices of products of Canadian farms.

(c) Ibid (b). Wholesale prices of grains, hay, tobacco and potatoes.

(d) Ibid (b). Wholesale prices of animals and animal products.

(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo). Ottawa. Monthly.

(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo). Ottawa, Jan., Apr., and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.

(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.

(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.

(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

(j) Preliminary.

THE ECONOMIC SITUATION

The changing pattern of external trade is probably one of the most important factors influencing the Canadian economy today. Many countries, particularly in the sterling area, have found it necessary to curtail their purchases in dollar areas. Those industries of Canada having historic markets in overseas countries feel the initial impact of the shift in world trade and can adjust to the new situation only as their products find a ready sale at home or in other foreign markets.

In the United States the recession of 1949 was followed by increases in production and employment which may reach new peaks in 1950. Canadian exports to the United States are meeting good demand and firm or rising prices which, in some cases, is more than compensating for the loss of overseas markets of some products.

In Canada, capital investment is continuing at peak levels, though the rate of expansion has slackened and the shift toward more construction and less machinery and equipment is creating unemployment and idle capacities in some industries.

Recent estimates of capital expenditures of Canadian business and governments in 1950 on new construction, machinery and equipment show an upward revision and are placed at $3·7 billion, 8 per cent above total capital outlays in 1949. Construction expenditure is estimated at $2·4 billion, 13 per cent above 1949 while estimated machinery and equipment expenditures are practically unchanged from 1949 levels. The total capital program constitutes, on the basis of present estimates, a little more than 22 per cent of the total national expenditure on all goods and services in 1950 and indicates the importance of such expenditure to Canadian employment and income.

Employment.—In the last two weeks of May and the first two weeks of June, agriculture, construction, transportation and services, in almost all sections of the country continued to draw heavily on the available supply of labour. In some sections of the country, particularly in Quebec, Ontario, and the Prairies, shortages of experienced farm workers were beginning to appear. Some of the men who had been available earlier for farm work had found jobs in the construction industry, now hiring large numbers of workers for the heavy building program planned for this year. Many have been employed in the woods of Quebec and New England, either on the river drive or on the summer pulpwood cut.

In manufacturing generally, the employment continued to increase, though not as rapidly as in agriculture and construction. Employment in the pulp and paper industry is generally at a high level as a result of the increased demand for pulp and paper products in the United States, and more workers were being hired to process the logs now coming down the rivers in the spring drive. Employment in sawmills, both in British Columbia and the Maritimes, was increasing rapidly in response to a heavy demand for lumber products both at home and in the United States. Automobile plants, primary iron and steel firms, and plants producing electrical equipment, especially television apparatus, were all operating close to capacity.

Certain industries and areas, however, were still facing special employment problems. In Newfoundland, some fishermen were hesitating to engage in the cod fishery until some of the uncertainty over markets is cleared up. In the light industries of Ontario and Quebec, some short-time work persists, particularly in textiles and leather products industries. Employment in shipbuilding, and heavy transportation equipment industries, as well as port activity in Halifax, remain well below the levels of 1949.

Industrial Production.—The index number of industrial production, on the base 1935-39=100, reached a peacetime high figure of 193·0 in April. This has been exceeded only by the 1943 and 1944 wartime averages of 198·6 and 198·8. The revised figure for March was 191·0, and that for April last year stood at 184·7.

The sub-index for manufacturing output was 201·6, a peacetime monthly high, 1·4 points above the previous month's figure and 7·4 points above April last year. The non-durable manufactured goods index advanced to 184·0 from 182·6 in March, and 179·1 a year ago, while the durable group index rose to 231·7 from 230·4 in March, and 220·1 last year.

Retail Prices.—The Dominion Bureau of Statistics' cost-of-living index, on the base 1935-39=100, advanced to a new high of 165·4 at June 1 as compared with 164·0 at May 1. The index stood at 160·5 on June 1, 1949. The latest increase was due almost entirely to higher meat prices which advanced the food index from 204·6 to 209·0. On average, fresh pork prices rose 6·3 cents per pound, beef prices 3·2 cents, lamb 4·4, and veal 1·9. Among other foods, butter declined 1·5 cents, while fresh vegetables and lemons rose slightly.

Wholesale Prices.—Canadian wholesale prices in May continued the upward movement shown since the beginning of this year, the index number, on the base 1926=100, rising to 161·8 from 160·1 in the preceding month and 156·4 in the corresponding month last year. The record high for this index was 164·3 registered in May, 1920.

Advances over April were recorded by all sub-group indexes except non-metallic minerals, which showed a slight decline. Group indexes were as follows, those for April being in brackets: vegetable products, 148·5 (146·4); animal products, 166·9 (166·8); textile products, 164·5 (162·4); wood products, 194·7 (192·5); iron products, 181·2 (180·0); non-ferrous metals, 144·1 (137·4); non-metallic minerals, 140·1 (140·2); chemical products, 117·5 (117·2).

Farm Prices.—Steadily rising livestock prices are reflected in the uninterrupted climb of the index numbers of farm prices of agricultural products since the first of the year. During the period January to May, the index has gained 10 points and now stands at 249·5, only slightly below the 250·3 recorded for the same month a year ago.

Lower grain prices since July 1950 comes largely as a result of the government authorizing the Canadian Wheat Board to undertake the marketing of western Canadian oats and barley delivered by producers during the 1949-50 crop year. Under this arrangement the Canadian Wheat Board will pay to producers upon delivery of these grains only an initial payment per bushel. These initial payments based on 60 cents per bushel for No. 1 Feed oats and 87 cents per bushel No. 1 Feed barley in store Fort William or Port Arthur are below the prices prevailing for these grains, prior to August 1, 1949. In addition to the initial payments made at the time of delivery, producer certificates are issued to the grower covering quantities and grades delivered. These certificates entitle producers to share in any surplus accumulated by the Board through the sale of these grains delivered to the Board between August 1, 1949 and July 31, 1950. Any participation payments made on these grains at a later date will be added to the initial prices currently used in the price index and the index revised upwards accordingly.

Overall cost of commodities and services used by Canadian farmers, advanced 4·6 per cent between January and April this year, while the cost of commodities and services exclusive of living costs moved up nearly seven per cent in the same interval, according to indexes compiled by the Dominion Bureau of Statistics. A seasonal increase of 11·7 per cent in farm wage rates, together with a 3·7 per cent rise in equipment and materials was mainly responsible for the increase.

With higher prices for food mainly accounting for the increase, and small advances for fuel, household equipment and miscellaneous items for both eastern and western Canada, the index of farm family living costs rose moderately from 175·3 for January to 176·7 for April. Indexes for farm equipment and materials increased 6·8 points from 184·4 in January to 191·2 in April, the latter level comparing with 180·4 in April last year. With the exception of binder twine which remained unchanged, price indexes were higher in April than January this year and April, 1949, for farm machinery, building materials, gasoline, oil and grease, feed, fertilizer, seed and hardware.

Fruit and Vegetable Outlook.—The first estimates of production of fruit in Canada indicate that with the exception of grapes most crops will be substantially smaller than those of a year ago. The apple crop is currently estimated at 15,369,000 bushels or 12 per cent less than the 1949 crop. The pear crop is expected to be one-third smaller than that of last season at 676,000 bushels. Plums and prunes will also be about one-third less at 481,000 bushels. The peach crop, which is at present estimated at 1,052,000 bushels, will be 48 per cent smaller than that of last season. While reductions are reported in both Ontario and British Columbia the greatest decline occurred in the latter province where the crop is practically a failure. Recent information has resulted in a revision of the contracted acreages of the major processed vegetable crops. The revised data with 1949 acreages in brackets are: Asparagus 930 acres (850 acres); Beans 6,250 acres (5,010 acres); Corn 30,090 acres (63,050 acres); Peas 37,260 acres (33,120 acres); Tomatoes 29,180 acres (39,240 acres).

FINANCING FARM IMPROVEMENTS[1]

Farm improvement loans made by chartered banks under the provisions of the Farm Improvement Loans Act[2] totalled $106·6 million for the period March 1945 to December 1949. The number of short- and intermediate-term loans made by the nine chartered banks during the same period was 114,593. The provinces of Saskatchewan and Alberta made the most extensive use of the Act. Farmers in the three Prairie Provinces borrowed $90 million. During the past two years the eastern provinces have been making greater use of the Act.

The majority, 84 per cent of the loans made and 88 per cent of the amount loaned, were used to purchase machinery and equipment. Each year since 1945 a greater proportion of the loans was for farm implements. The importance of these loans becomes apparent when the annual F.I.L.A. report is studied. The 1949 report, comparing the years 1948 and 1949, states:

> Loans for the purchase of farm trucks showed the greatest increase, being 83·2 per cent as compared with an increase of 68·3 per cent for tractors. Loans for the purchase of combines and threshers were practically the same as for 1948. From figures available it would appear that about 31 per cent of all tractors, 38 per cent of all combines, and 28 per cent of all threshers purchased in Canada last year were financed under this Act.

Second in importance, but only seven per cent of the number as well as of the amount, was loans for construction, repair or alteration, or making of addition to, any building or structure on a farm. Only 1,654 loans, or about one per cent of all loans made under F.I.L.A., were made to build new farm homes during the period covering nearly five years.

To complete this brief outline of operations, reference must be made to repayments and losses. Of the total volume loaned under the Act by December 31, 1949, repayments amounted to $62·3 million or 58 per cent. For the first four years of operation, no claims were made for losses. In 1949 thirteen claims for losses under the government guarantee were made by the banks for a total amount of $10,264.

Few agencies specialized in short- and intermediate-term agricultural credit prior to 1945. Credit that was available was expensive and the terms of repayment were not always suited to the farmer's individual requirements. Furthermore, the cost of making loans in small short-term budget loans, which the borrower repays in several instalments, is relatively high.

The provisions of the Act have facilitated the extension of short- and intermediate-term credit. The Act became operative in a period of high farm income. In 1945 cash farm income was $1,695 million and net farm income was $981 million. By 1948, cash farm income and net farm income were at a record high of $2,459 million and $1,600 million respectively. In 1949 there was a small decline. During this same period farmers continued to reduce their long-term indebtedness. But the number of short- and intermediate-term loans increased annually from 4,311 in the first 10 months of 1945 to 44,775 in the 12 months of 1949, and the amount from $3·4 million to $45·9 million respectively. This expansion of credit for farm improvements is in line with the purpose of the Act.

---

[1] A farmer needs two types of credit. He needs credit to enable him to purchase land and buildings, perhaps to pay off the claims of other heirs to an estate. He needs credit with which to purchase livestock, to repair buildings and purchase machinery. It is the latter type of credit which this article discusses.

[2] The Farm Improvement Loans Act. 8 George VI, Chap. 41. Assented to 15 August, 1944. Order in Council P.C. 4176, October 8, 1946.

An Act to Amend the Farm Improvement Loans Act. 11-12 George VI, Chap. 9. Assented to 24 March, 1948.

Purpose and Regulations.—The purpose of the Act, as stated in the preamble, is "to encourage the provision of Intermediate Term and Short Term Credit to farmers for the Improvement and Development of Farms, and for the Improvement of Living Conditions thereon".

The broad aims behind this legislation, as stated in the literature published by the agency responsible for the administering of the F.I.L.A. are:

1. The improvement and development of farms—Loans will be made to enable a farmer to equip his farm with modern, labour-saving equipment, more and better livestock, and to make such other improvements as will bring the farm up to its maximum production.
2. The improvement of living conditions on farms—these loans will enable a farmer to provide his farm home with such things as electrification, refrigeration, heating systems, water systems, and all those things which make for comfort and convenience in living and which do so much to eliminate the drudgery of the women in the farm home.
3. It aims at assisting, particularly, the average farmer who in the past has frequently not been able to secure bank credit for these purposes. It aims, moreover, at providing credit for these purposes—on a farm and under terms and conditions which are convenient and suited to the needs and conditions of the particular farm borrower.

Farm improvement loans may be made to a farmer[1] who owns his land outright, a farmer purchasing his land under an agreement for sale and a farmer with an existing mortgage, providing that, in the last two cases the farmer has a reasonable equity in his land; and, in certain cases, to tenants.

Loans may not exceed $3,000 and the repayment periods are from one to ten years depending upon the amount borrowed. The interest rate is 5 per cent simple interest with no service fees or other charges.

F.I.L.A. loans are made by the chartered banks, which are guaranteed against loss by the Federal Government up to 10 per cent of the aggregate principal amount of loans made by each bank. The liability of the Government is limited to an aggregate principal amount of $250,000,000 in loans by all banks made originally within a three-year period, 1945-48, and extended in 1948 for a six year period from 1945 to February 28, 1951.

The Act provides repayment periods which are sufficiently flexible to meet the farmers' requirements, having regard to the farmers' existing liabilities and to the type of farming carried on and to relevant marketing and other practices and conditions.

Loans for the improvement or development of a farm include:

1. The purchase of agricultural implements.

Loans are available for the purchase of all types of farm equipment, and also for such household effects as washing machines, churns, stoves, furnaces, and heating and cooking appliances.

In the case of farm equipment, loans are obtainable for two-thirds of the purchase price of all farm implements, including combines, threshers and tractors. The security is a lien given on the article purchased.

The terms of repayment vary. Thus, loans for cream separators, churns, washing machines, incubators, milking machines, refrigerators, heating and cooking appliances are, where practicable, repayable in monthly instalments. Loans for the purchase of a motor truck are repayable in instalments every six months. In some cases where a farmer is in receipt of a monthly income, instalments will be payable monthly. In respect to other farm machinery, instalment repayments may be provided up to twelve months. Loans for the purchase of combines, tractors and threshers, the cost of which exceeds $1,500, are required to be repaid within three years.

---

[1] The Act restricts these loans to a person who is in possession of a farm and whose principal occupation is farming such farm. The term "farming" includes livestock and poultry raising, dairying, fruit growing and all tillage of the soil.

2. The purchase of livestock.

Livestock loans are made mainly for the purchase of foundation or breeding stock. They are limited to not more than 75 per cent of the estimated cost of the livestock.

Security is taken on the livestock purchased, or on all livestock owned or to be owned by the borrower. The loan is repayable in annual instalments, or, where possible, in monthly instalments.

3. The purchase or installation of agricultural equipment or a farm electric system.

Agricultural implements in this case are defined as:

> implements, apparatus, appliances and machinery of any kind usually affixed to a real or immovable property, for use on a farm.

Farm electric system includes:

> all machinery, apparatus and appliances for the generation or distribution of electricity on a farm whether or not affixed to real or immovable property.

The loan is up to 75 per cent of the estimated cost of the equipment, and the security is the equipment or the farm electric system.

4. The alteration or improvement of a farm electric system.

The loan is limited to 75 per cent of the estimated cost of the alteration or improvement of the farm electric system. The security, in the main, is in agricultural implements; and repayments must be made at least every six months.

5. The erection or construction of fencing or works for drainage on a farm.

The loan is made for not more than 75 per cent of the estimated cost of the project, the security being usually agricultural implements. Payment must be made at least annually.

6. The construction, repair or alteration of, or making additions to, any building or structure on a farm.

Loans made for building purposes cover the farm residence, a house for farm workers, and tourist cabins and summer cottages. The latter two must be located on the farm and operated as a sideline to the main business of farming. Other buildings for which loans are available include barns, ice houses, tobacco kilns, garages, granaries, hog houses, silos, poultry houses, machine and tool sheds. Loans for these purposes may be obtained up to 90 per cent of the building project's estimated cost but they may not exceed $3,000.

7. Any work for the improvement or development of a farm designated in the regulations.

There are four broad categories:

(*a*) the construction, installation, repair, alteration or improvement of a sewage disposal system or any portion thereof;
(*b*) the sinking, construction, installation, repair, alteration or improvement of wells, dugouts and all types of water supply systems or an ice well;
(*c*) clearing, breaking, irrigating and reclaiming land;
(*d*) soil conservation, prevention of erosion and the planting of trees and shelter belts.

Loans are made to the owner or a tenant having a right of tenancy extending two years beyond the term of the loan. The loan is limited to 75 per cent of the estimated cost of the project. The security is usually agricultural implements, and a loan is repayable on an annual basis.

The Method of Repayment.—According to the Act:

> the term and the amount and frequency of instalment payments [shall] conform with the borrow's probable ability to pay, having regard to the type of farming carried on by him and to the relevant marketing and other practices and conditions to any special circumstances.

The Act set up a schedule of maximum terms for loans (with some exceptions):

Loans not Exceeding	*Maximum Term*	*Loans not Exceeding*	*Maximum Terms*
200	18 months	1,250	4 years, 6 months
400	2 years	2,000	7 years
750	3 years	3,000	10 years

Payments are to be made annually, quarterly or monthly, depending on the type of farm business.

LAND USE IN THE ELBOW-SASKATOON AREA OF CENTRAL SASKATCHEWAN

GORDON HAASE

During 1949, the program of land classification in Saskatchewan was extended into the area immediately north-east of the elbow of the South Saskatchewan River, in the central part of the province. At the same time, a farm business survey was conducted in the general area between the town of Elbow and the city of Saskatoon, and the purpose of this article is to report the findings of this survey in the following aspects:

1. The conditions of land ownership and the pattern of occupancy and settlement.
2. The pattern of land use in this area.

In the field survey, information was obtained directly from farm operators regarding the business transactions of the previous year.[1] Information regarding land ownership and occupancy was obtained from local municipal records and officials. Additional data from the Census Division, Dominion Bureau of Statistics, permit a description of land use in the general region within which the survey areas lie.

Table 1.—Distribution of Land Area in the Elbow-Saskatoon Area, Saskatchewan According to Conditions of Ownership, 1949[a]

Ownership Category	Per Cent of Land Area
Privately owned, area residents	79·4
Privately owned, non-residents	8·3
Municipal and crown lands	2·9
Institutional land owners	3·4
Estates	5·1
Townsites	0·9
TOTAL	100·0

[a] Estimate from area-block census.

Ownership of Land.—The greater part of the land area of this project is held in private ownership. The majority of these owners are the resident operators of their holdings, although there are certain cases of substantial holdings by residents of other areas, and of the United States, and also a small amount of institutional land ownership. Some indication of the maturity of the original settlement of the area is given by the percentage of land now held in estates under probate. The overall situation of land ownership is shown in Table 1.

Size of Farms.—A total of 1,256 farm units are included in the area-blocks studied. Of these units, 57·0 per cent are fully owned by their operators, 33·4 per cent are partly owned, while 9·6 per cent are fully rented.

---

[1] In the sampling procedure, the survey area is represented by selected area blocks. Within these blocks a farm census was first taken, making it possible to define the size and tenure distributions of the farms in these areas. The sample was then stratified according to farm size and soil conditions with the visited farms selected at random within each strata group.

Table 2.—Distribution of Farms in the Elbow-Saskatoon Area, Saskatchewan, According to Size and Tenure, 1949

Tenure	Size of Farm in Quarter-Sections								
	1	2	3	4	5–6	7–8	9–10	11+	Total
	—Number of farms—								
Fully owned	59	176	139	136	112	55	23	17	717
Partly owned	....	19	48	82	110	81	35	44	419
Fully rented	8	31	23	26	15	9	1	7	120
Total	67	226	210	244	237	145	59	68	1,256
Cumulative Per cent of total	5·3	23·3	40·1	59·5	78·3	89·9	94·6	100·0	....

This group of farms ranges in size from one-quarter section of 160 acres, to over five sections, there being 67 of the smallest size. The average size of farm is about 560 acres. The distribution of these 1,256 farms according to size and tenure is shown in Table 2.

Land Use.—The survey area lies within what is now typically a commercial wheat growing area. There is a distinct tendency towards extensive scale of operation, reflecting a relatively unfavourable yield level associated with low rainfall and lighter soil textural types. For eleven municipal units within which this area partly lies, the 31-year average yield of wheat prior to 1949 was 11 bushels per acre, with individual municipal averages ranging from 10 bushels to 12 bushels per acre. The proportion of cultivated land is quite high, and the small amount of waste land, together with the uncertainty of crop production for feed, have combined to restrict livestock production in the area. Also because of tendencies towards droughtness, summerfallowing for moisture conservation is a most important cultural practice. Among the cultivated crops, wheat is by natural adaption the best suited to the growing conditions of the region, and other crops have only a complementary position within the normal rotational requirements. For the eleven municipal units concerned, data on land utilization are available from Census publications and these are summarized for 1941 and 1946 in the following table.

Table 3.—Utilization of Land in the Elbow-Saskatoon Area, Saskatchewan

Land Use	Average Per Occupied Farm							
	In Eleven Rural Municipalities[a]				On 300 Farms			
	1941		1946		1948		1949	
	Acres	Per Cent of Cult	Acres	Per Cent of Cult.	Acres	Per Cent of Cult.	Acres	Per Cent of Cult.
Wheat	129·1	38·4	176·4	46·4	266	44·6	257	44·5
Oats	39·4	11·7	39·9	10·5	48	7·9	45	7·8
Barley	13·0	3·8	19·7	5·2	30	5·0	23	4·0
Rye	2·3	0·7	4·2	1·1	26	4·4	11	1·9
Flax	7·1	2·1	3·8	1·0	....	....	....	....
Other crops	....	....	....	....	8	1·3	4	0·7
Other crops and pasture	17·4	5·2	16·6	4·4	....	....	....	....
Summerfallow	127·9	38·1	119·8	31·4	207	34·8	227	39·2
Improved pasture	....	....	....	....	9	1·5	7	1·2
Temporary idle	....	....	....	....	3	0·5	4	0·7
Total cultivated	336·2	100·0	380·5	100·0	597	100·0	578	100·0
Farmstead	....	....	....	....	7	....	7	....
Total improved	....	....	....	....	604	....	585	....
Permanently idle	....	....	....	....	10	....	8	....
Prairie and waste	....	....	....	....	123	....	128	....
Total unimproved	118·1	....	133·4	....	133	....	136	....
Total arable	....	....	....	....	640	....	620	....
Total assessed	454·4	....	513·9	....	737	....	721	....

[a] Census of Saskatchewan 1941, 1946. Dominion Bureau of Statistics, Census Division.

Land Use, Sample.—Some 300 of the 1,256 farm operators in this area were visited in the course of the field survey. Details of land use for 1948 and 1949 were obtained from these farms, and are summarized in Table 3. These farms are treated as a group to preserve some comparability with the census data for 1941 and 1946, given above. These data shown in Table 3, give the land use pattern for four years in the period 1941-1949.

It will be noted that the farms included in the survey tend to be larger than the average shown by the Census data. This situation arises because methods of enumeration of farms are not the same in both cases. In terms of proportions of the cultivated area devoted to the various crops, however, the two sources give comparable estimates. Wheat is of course the most important crop, using on the average from about 28 per cent to over 46 per cent of the cultivated acreage in the four years under review. Summerfallow is second in importance, accounting, on the average, for between 31 per cent and 39 per cent of the total in these years.

Table 4.—Land Use in Relation to Soil and Size of Farm in 300 Farms in the Elbow-Saskatoon Area, Saskatchewan, 1948

Land use	Farms with good soils		Farms with poor soils	
	Under 640 acres	Over 640 acres	Under 640 acres	Over 640 acres
	Acres	Acres	Acres	Acres
Wheat	198·0	454·0	171·0	313·0
Oats	34·0	52·0	40·0	74·0
Barley	17·0	30·0	23·0	57·0
Rye	6·0	35·0	17·0	55·0
Flax	0·7	4·0	0·3	4·0
Other crops	2·5	0·3	5·2	14·0
Summerfallow	134·4	368·1	119·8	311·6
Improved pasture	1·7	9·6	3·7	24·0
Temporary idle	1·7	10·0	....	2·4
Total Cultivated	396·0	963·0	380·0	855·0
Farmstead	6·0	8·0	6·0	7·0
Total improved	402·0	971·0	386·0	862·0
Permanently idle	2·0	36·0	3·0	5·0
Prairie and waste	53·0	168·0	67·0	215·0
Total unimproved	55·0	204·0	70·0	220·0
Total arable	417·0	1,012·0	407·0	911·0
Total assessed	457·0	1,175·0	456·0	1,082·0

Land Use in Relation to Soil and Farm Size.—The land use pattern differs according to whether the soils were light and droughty, or heavy and more retentive of moisture. Furthermore, the cultural and cropping practices of the small farm differ from those of the large scale operator. In Table 4, therefore, land use is examined in relation to soil characteristics and farm size. The proportion of land cultivated is greater on the better soils, and the smaller farms. In 1949, the smaller farms on the good soil types had on the average, exactly 50 per cent of the cultivated land in wheat, as compared with 45 per cent for the same size of farms on poorer soil. On the same soil types, the smaller farms used a higher proportion of their land for wheat than did the larger farms; on the good soils, the small farms used 50 per cent for wheat, compared with 47 per cent for the larger farms. On the poorer soils, the small farms used 45 per cent of the cultivated acreage for wheat as compared with 36 per cent on the larger farms. The larger farms summerfallowed about 5 per cent more of cultivated land than did the smaller farms, and the farms on the good soils had slightly more of their land in fallow than had the farms on the poorer soil types.

Land Use and Tenure.—Land use does not appear to be related to tenure in this group of farms. If a tenant followed more exploitive practices in prospect of temporary occupancy, the proportion of cultivated land planted to wheat should be higher on rented farms, and the proportion of summerfallow should be lower. For medium sized farms in this group, situated on medium textured soils, rented farms had an average of 45·9 per cent of cultivated acreage in wheat, farms fully owned by their operators had 45·7 per cent in wheat, and units which were partly owned and partly rented had 44·7 per cent in wheat. No significant difference in summerfallow practices appeared in relation to tenure, the proportions in fallow being respectively 31·0 per cent for rented units, 31·3 per cent for owned units, and 34·6 per cent for partly owned units in the year under review.

AGRICULTURE AT TORQUAY[1]

MARGARET I. DUNBABIN

At the end of September the west of England resort town of Torquay will become the site of the third series of tariff negotiations to be conducted by the Contracting Parties to the General Agreement on Tariffs and Trade (G.A.T.T.). Represented at the talks will be 23 "Geneva" countries[2] (the original G.A.T.T. members which joined following the negotiations at Geneva in 1947), ten "Annecy" countries, which negotiated for the first time at the French town of that name in 1949, and 7 "new" countries, which will be eligible for membership if they conduct satisfactory negotiations at the conference.

The meetings will have a double significance; not only will tariff negotiations be conducted between representatives of member countries of G.A.T.T. and of the countries seeking accession but there will also be a reopening of negotiations between the countries which joined G.A.T.T. as a result of tariff concessions made at Geneva and Annecy and subsequently implemented by the respective governments.

The thirty-nine countries which, in addition to Canada, will be represented at Torquay provided a market in 1948 and 1949 for 94 per cent of Canada's exports and were the sources of 93 per cent of imports, with a combined value each year of $5·4 billion (see Table 1).

In each of these years the negotiating countries bought Canadian goods worth nearly $3 billion. Of this amount, 30 per cent comprised products of Canadian agriculture either unprocessed, as foodstuffs or in the form of industrial raw materials. The two outstanding markets were the United Kingdom and the United States, together accounting for over three-quarters of Canada's export trade in agricultural products. In the United Kingdom market Canada has practically free entry for such commodities, under the terms of the Ottawa Agreement of 1932. In the United States substantial concessions were secured at Geneva and the list of products which the United States is prepared to consider as a basis for negotiations at Torquay contains some forty agricultural

---

[1] See Type of Farming Areas map supplied with the bulletin on *Types of Farming in Canada.*

[1] For more detailed information on the General Agreement on Tariffs and Trade see: "The Charter for an International Trade Organization and the General Agreement on Tariffs and Trade", A. E. Richards. *The Economic Annalist,* August 1948, pp. 61-4; "Tariff Reductions and Trade Expansion", A. E. Richards. *The Economic Annalist,* December 1949, pp. 126-8.

The tables are prepared from statistics published by the Dominion Bureau of Statistics in the *Trade of Canada.*

[2] China has ceased to be one of the Contracting Parties but Indonesia has been admitted as it has now become an independent state.

Table 1.—Canada's Trade with Countries to Participate in the Torquay Tariff Negotiations

—	Exports		Imports	
	1948	1949	1948	1949
	—million dollars—			
Geneva Countries	2,802	2,709	2,407	2,532
Annecy Countries	68	31	38	21
New Countries	32	64	20	21
Total Participating Countries	2,903	2,805	2,465	2,574
Total All Countries	3,075	2,993	2,637	2,761
Participating Countries as Percentage of All Countries	94	94	93	93

items requested by Canada. In addition there are agricultural items on which negotiations may be conducted by other countries, with possible direct benefit to Canada through most-favoured-nation treatment.

No less important, however, will be Canada's negotiations with countries other than the United States, for success in reducing tariffs will pave the way to diversification of markets. In Table II a complete list is given of the participating countries, showing the exports of Canadian agricultural products to each in 1948 and 1949 and the percentage of total trade which these represented.

As a measure of what has been so far achieved, countries are listed below which have granted concessions within certain broad categories of interest to Canadian agriculture. In some cases the negotiation resulted in a binding of the existing rate; in others there was a reduction. Where a country grants preferential rates to Canada it is listed only if there was a completed negotiation in this tariff. These bindings and reductions are of particular significance as it was decided by the Fourth Session of the Contracting Parties, at their meeting earlier this year, to prolong the life of the Geneva and Annecy schedules to January 1, 1954.

Wheat and Wheat Flour.—Benelux, Belgian Congo, Netherlands Antilles, Suranim, Brazil, Ceylon, Cuba, Denmark, Dominican Republic, France, French Equatorial Africa, French West Africa, French Somali Coast, French Oceania, Guadeloupe, French Guiana, Indo-China, Madagascar, Martinique, New Caledonia, Reunion, St. Pierre and Miquelon, Greece, Indonesia, Italy, Liberia, Nicaragua, Norway, United Kingdom, United States.

Coarse Grains and Products.—Ceylon, France, French Oceania, Guadeloupe, French Guiana, Martinique, St. Pierre and Miquelon, Haiti, India, Italy, Liberia, Pakistan, United States.

Canned Meat.—Ceylon, France, French Oceania, Guadeloupe, French Guiana, Martinique, St. Pierre and Miquelon, Haiti, India, Italy, Liberia, Pakistan, United States.

Bacon and Hams.—Netherlands Antilles, Ceylon, France, Guadeloupe, French Guiana, Indo-China, Martinique, New Caledonia, Greece, Haiti, India, Indonesia, Pakistan, South Africa, United Kingdom, United States.

Cheese (Types Produced in Canada.)—Benelux, Belgian Congo, Burma, France, New Caledonia, Haiti, India, Indonesia, Liberia, Norway, Pakistan, South Africa, United Kingdom, United States.

Processed Milk.—Belgian Congo, Netherlands Antilles, Brazil, Burma, Cuba, Czechoslovakia, France, French West Africa, French Oceania, Indo-China, Madagascar, New Caledonia, St. Pierre and Miquelon, Greece, Haiti, India, Indonesia, Italy, Liberia, Nicaragua, Pakistan, United Kingdom, United States.

Table 2.—Canada—Exports of Agricultural Products

Country	Agricultural Exports		Agricultural as a Proportion of Total Exports	
	1948	1949	1948	1949
	—million dollars—		—per cent—	
GENEVA COUNTRIES—				
Australia	0	0	0	0
Benelux	39·7	44·4	52	63
Benelux—Overseas Territories	1·9	1·8	37	33
Brazil	2·9	0·7	10	4
Burma	....	....	....	....
Ceylon	0·3	0·5	17	22
Chile	0	0·1	0	3
Cuba	3·8	6·3	35	44
Czechoslovakia	2·8	0·1	24	5
France	6·6	0·3	7	1
France—Overseas Territories	1·0	0·6	18	13
India	2·9	23·2	8	32
Indonesia	1·2	0·8	15	17
New Zealand	1·1	0·9	6	6
Norway	14·2	5·1	61	24
Pakistan	1·9	0·1	24	1
South Africa	7·4	20·1	9	26
Southern Rhodesia	0·1	0·1	4	3
Syria and Lebanon	5·8	2·2	94	66
United Kingdom	397·0	398·7	58	57
United Kingdom—Overseas Territories[a]	75·1	41·5	51	56
United States	252·9	258·3	17	17
United States—Overseas Territories	1·8	3·3	19	21
ANNECY COUNTRIES—				
Denmark	3·0	0·2	39	8
Denmark—Overseas Territories	0	0	45	30
Dominican Republic	0·6	0·8	27	37
Finland	0·3	....	11	....
Greece	1·5	0·6	16	23
Haiti	0·5	0·7	36	43
Italy	26·3	5·9	81	47
Italy—Overseas Territories	0	....	20	....
Liberia	0	0	35	33
Nicaragua	0·1	0·2	14	26
Sweden	0·1	0·0	1	1
Uruguay	0·4	0·5	9	22
NEW COUNTRIES—				
Austria	1·0	1·5	32	40
Guatemala	0·4	0·7	26	42
Korea	....	....	....	....
Peru	0·2	4·1	9	59
Philippines	4·4	9·7	45	70
Turkey	....	8·8	....	62
Western Germany	6·1	10·7	46	46
TOTALS—				
Geneva Countries	820·3	809·1	29	30
Annecy Countries	32·9	9·0	48	29
New Countries	12·1	35·5	38	55
All Participating Countries	865·3	853·6	30	30

[a] Includes Newfoundland for 1948 and first quarter of 1949.

NOTE: Commodities included comprise primary agricultural products, foodstuffs, and industrial raw materials.

0 = less than $50,000 or less than 0·5 per cent.

Apples.—Benelux, Netherlands Antilles, Suranim, Brazil, Ceylon, Chile, Cuba, Czechoslovakia, Denmark, Dominican Republic, Finland, France, Indo-China, Madagascar, St. Pierre and Miquelon, Greece, Haiti, India, Indonesia, Italy, Norway, Pakistan, Sweden, United States, Uruguay.

Certified Seed Potatoes.—Brazil, Cuba, France, Haiti, Italy, United States, Uruguay.

Forage Crop Seeds.—Benelux, Brazil, Chile Czechoslovakia, Denmark, Finland, France, India, Pakistan, Sweden, United States, Uruguay.

Tariff concessions of this order have not, of course, been obtained without reciprocity. As far as Canada is concerned, many of the agricultural products imported are of a type not produced domestically—tea, coffee, rubber, rice, cotton, many kinds of fruits and nuts—or produced in insufficient quantities for satisfying consumption—sugar, corn, wool. Of the commodities similar to those produced in Canada, the principal source of supply is the United States. Tariff negotiations between Canada and the United States have led to reductions in the tariffs of both countries, but, on the basis of the total trade, the reductions on agricultural products seem to have been no more favourable to the United States than to Canada. In 1948 Canada imported United States agricultural products worth $160 million and exported agricultural commodities there to the value of $253 million. During most of 1948, however, import restrictions imposed on November 18, 1947 were in effect on fresh fruits and vegetables, in order to conserve foreign exchange. At the end of 1948 the improved Canadian exchange position led to the removal of these restrictions and in 1949 agricultural imports into Canada from the U.S.A. were valued at $209 million, compared with agricultural exports of $259 million.

The balance of trade, from the point of view of the Canadian producer, was still more favourable than appears from these figures. Of the imports from the United States, a considerable proportion was of commodities either not produced in Canada, or produced in insufficient quantities to fill local demand. Some of these items were: citrus fruit, $20 million; fruit juices (mainly citrus), $10 million; peanuts, $5 million; raw cotton, $51 million; corn, $12 million; soybeans and soybean oil, $7 million; cottonseed oil, $8 million. These commodities together accounted for $113 million out of the total of $209 million.

This article presents some of the broader aspects of the Torquay tariff negotiations. The detailed work preceding the meetings consists of the collection and analysis of a great mass of material on trade, production, price and tariff rates of individual commodities.

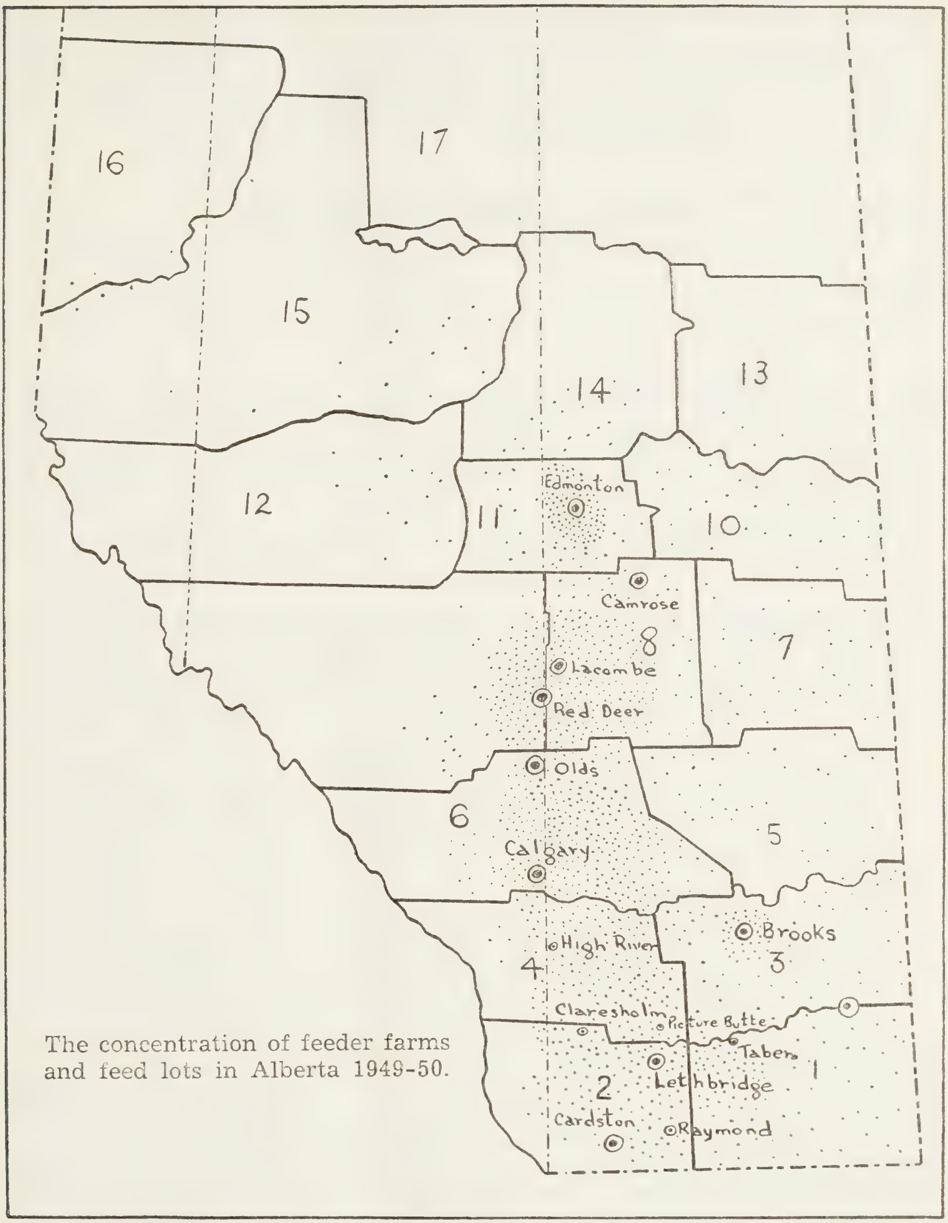
LIVESTOCK FEEDING IN ALBERTA

C. M. Kline

Livestock feeding in Alberta is a major industry. Approximately 150,000 head of cattle and even a larger number of sheep are being fed annually. Alberta ranks second to Ontario in numbers of cattle and sheep fed.

The fattening of feeder cattle and sheep is a specialized business. In the pioneer days of livestock finishing nearly all the farmer-feeders fattened livestock under contract with the ranchers and very few were able to do their own financing. Today, there are large numbers of farmers who are able to finance on their own or through feeder associations. For many farmers livestock feeding has become a year-around enterprise.

The Main Feeding Areas.—*Cattle*: To some extent feeding of cattle in Alberta is carried on in all of the seventeen crop districts. The main feeding areas are located in southern and central Alberta, namely; Crop Districts 1, 2, 3, 4, 6, 8, and 11 (see map). In Crop Districts 1, 2 and 4, if a line were drawn from Taber to Picture Butte to High River, then down to Claresholm and through Macleod to Cardston and back to Taber through Magrath and Raymond, it would form a rough triangle indicating where most of the feeding takes place. In Crop Districts 6, 8 and 11, centered respectively by Calgary, Lacombe and Edmonton, the feeding is distributed throughout with more concentration around Calgary and Edmonton. In Crop District 3 the main areas of feeding are in the Brooks and Vauxhall districts.



The concentration of feeder farms and feed lots in Alberta 1949-50.

Since 1939 the total number of feeder cattle in the province has more than doubled. The peak was reached in 1945 when over 150,000 cattle were fed compared with 72,000 in 1939. Since 1945 there has been some reduction in nearly all crop districts. The only exception is in the southern part of the province where the number of cattle fed steadily increased, and by 1948 amounted to nearly four times the number fed in 1939. This increase in the south was due to the improved situation of the irrigation farmers and the larger amounts of relatively cheap feed made possible by the increased sugar beet and vegetable acreages (Table 1).

Sheep and Lambs: The main sheep and lamb feeding areas of the province are generally those indicated for cattle, although not as widely distributed. Their greatest concentration is within the Irrigation Districts at Brooks, Bow Slope, Vauxhall, Lethbridge, Raymond and Magrath, where both grazing and fattening can be carried on. Some sheep feeding is done in the parkland region from Olds to Red Deer and Edmonton.

Table 1.—Estimated Total Number of Feeder Cattle in Feedlots in Alberta by Crop District, Selected Years 1939-48

Year	Crop Districts						
	1, 2, 4	3, 5	6	7, 8, 9	10, 11, 12, 14	All others	Total
	—number—						
1939	16,500	2,700	30,300	10,400	11,600	300	71,800
1943	54,300	4,600	33,900	9,100	16,000	300	118,200
1945	56,000	4,900	57,700	10,000	22,000	200	150,800
1948	61,100	8,400	42,800	10,100	20,800	300	143,500

Source: Annual Market Reviews. Canada Department of Agriculture, Marketing Service. Ottawa, 1939, 1943, 1945 and 1948.
C.P.R. records of feeder cattle shipments. Calgary, Alberta.
Offices of the Market Information Section, Marketing Service, Canada Department of Agriculture. Calgary and Edmonton. Alberta.
Private feeders in the Edmonton, Calgary, and Lethbridge areas.

Sources of Feeder Livestock.—Most of the stocker and feeder cattle in feedlots come from adjoining ranch and farm lands and other points within the province. The only other source of any importance is the ranch lands of southwestern Saskatchewan. In some years feeders are obtained from central and northern Saskatchewan, a few from interior British Columbia points and some from as distant as the Winnipeg stockyards.

In 1949 approximately 40 per cent of the cattle in Alberta feedlots came from the Edmonton and Calgary stockyards; the Edmonton yards supplied 24,137 and the Calgary yards 36,239 head. This latter figure does not include the 4,500 head that were sent to feedlots in other provinces from the Calgary yards.

Although no record of the destination of cattle trucked out of the stockyards was made before 1949, the number of stocker cattle shipped by rail for feeding purposes was recorded.[1] Rail shipments for the years 1941, 1943, and 1945 to 1949 inclusive, from the Calgary stockyards to feedlots in Alberta, British Columbia, Saskatchewan and Manitoba are shown in Table 2.

The feeder shipments by rail amounted to only 40 to 50 per cent of the feeder cattle shipments to country points, but the figures are indicative of the wide distribution of these cattle from the Calgary stockyards. The Edmonton stockyards, although handling a smaller quantity of feeder cattle, are an important distribution point for the northern and central sections of the province.

An increasingly important source of feeder cattle is the auction sales—both community and private. The community auction sales in particular have become quite widespread and in the Lethbridge area are now one of the more important sources of feeders and stockers. In 1947 community auction sales handled approximately 22,000 head of cattle. Of that total about one-half were feeder cattle that went back to feed in the same localities.

The Lethbridge and Taber Areas: The main source of feeder cattle for the Lethbridge and Taber areas is the ranching country to the southwest, south and southeast and from nearby farms through local community auction sales.

---

[1] A three-quarter freight rate is given by the railways on all cattle or sheep going to a feedlot for feeding purposes on condition that these livestock will be reshipped via the railways within six months.

The other sources are ranch areas in southwest Saskatchewan, the farms around Calgary and Edmonton, and in some years to a lesser extent from the Winnipeg, Saskatoon and Kamloops regions.

Table 2.—Distribution of Feeder Cattle via Rail[a] From Calgary Stockyards, Selected Years 1940-49

Year	Alberta Crop Districts										B.C.	Man.	Sask.	Total ¾ Freight Rate Shipments	Total Feeder Cattle Shipments to Country Points[b]
	1	2	3	4	5	6	7	8	9	11					
—numbers—															
1940	435	622	1,320	2,936	.....	6,022	....	871	261	....	402	.....	105	12,974	27,401
1943	......	2,449	611	3,242	40	4,573	36	347	62	....	.....	122	67	11,549	26,965
1945	95	1,711	885	6,151	167	6,151	....	328	65	....	10	99	......	16,085	40,056
1946	412	2,164	400	5,612	210	5,116	....	508	33	....	148	.....	95	14,698	32,482
1947	305	2,498	577	6,208	321	3,424	41	301	114	....	278	....	35	14,102	34,704
1948	1,788	5,043	1,104	5,722	703	1,971	52	83	130	47	296	56	......	16,995	41,524
1949	939	5,970	1,242	3,300	241	2,912	71	52	118	....	283	.....	122	15,250	36,239

Source: Canada Department of Agriculture, Livestock Branch. Stockyards, Calgary.

[a] Through three-quarter freight rates.

[b] Includes truckings out of the yards as well as the three-quarter freight shipments.

The Calgary Area: The Calgary area is its own main source of feeder stock. Most of the cattle are shipped into the Calgary stockyards from surrounding areas and are reshipped to the farmers and feedlots for finishing.

The Edmonton Area: The Edmonton area is like Calgary in that it is its own main source of feeder cattle for finishing.

The Brooks Area: Nearly three-fourths of the feeder cattle fed in the Brooks area come from the surrounding ranching areas to the north, east and south. The other fourth comes mostly from the Calgary stockyards.

The Lacombe-Innisfail Area: The main sources of supply for the Lacombe-Innisfail area are the surrounding farm lands and the Edmonton and Calgary stockyards.

Lamb Feeding Areas and Sources of Supply.—*The Lethbridge and Taber Areas:* The Lethbridge and Taber areas which include all the feedlots in Crop Districts 2, 4 and 1, form the most important lamb feeding area in Alberta. Nearly 75 per cent of all the lambs fed here come from the Maple Creek area of Saskatchewan. Another source of feeder lambs for the area is the sheep ranching areas to the southeast, south and southwest. A third source is the Calgary stockyards.

The Brooks and Vauxhall Areas: At present nearly all the feeder lambs come to the Brooks-Vauxhall area from the surrounding ranching country. Prior to 1945 another important source was the Maple Creek area. In recent years the Lethbridge area has gone more heavily into sheep and lamb feeding and it has outbid the Brooks and Vauxhall buyers for feeders in the Maple Creek area. Lower feeding costs in the Lethbridge area appears to be the reason.

The Calgary Area: Most of the feeding in the Calgary area is carried on by the packers who secure their feeders from the surrounding area and through the Calgary stockyards, and a few farmers who raise their own sheep.

The Olds-Lacombe Area: Most of the feeding in the Olds-Lacombe area is done by farmers who raise their own sheep. A few purchase additional feeders from the Calgary and Edmonton stockyards.

The Edmonton Area: Most of the feeding in the Edmonton area is done by the farmer-feeder and by the packing firms. The main source of feeder lambs is the surrounding farm lands.

Markets for Alberta Feeder Livestock.—*Cattle*: Packing firms in Alberta handle between 55 and 70 per cent of the finished commercial cattle. The various feeding areas with different classes of cattle each have a main market and two or three secondary markets to which their finished cattle are shipped for processing. For instance, heavier cattle are shipped to eastern markets such as Montreal where that class of animal is preferred, whereas the lighter cattle are shipped to the west which demands the lighter class. The main markets for finished feeder cattle from Alberta feeding areas are described below.

The Lethbridge and Taber Areas: The main direct markets for finished cattle from the Lethbridge and Taber areas to the east are Regina, Winnipeg, Windsor, Toronto, and Montreal; and Vancouver to the west. The remaining finished cattle go either to Calgary or Edmonton for processing or to the stockyards in Calgary for resale.

During the war and post-war years prior to August 1948 when the embargo on cattle was lifted, few if any cattle went to the United States. Subsequent to the lifting of the embargo large numbers of finished cattle were sent to the U.S.A. markets from the Lethbridge and Taber areas. At present there has been a return to the practice of pre-war years of marketing large numbers of feeder cattle to the United States.

The Calgary Area: Approximately one-fifth of the finished cattle from this area are brought into Calgary for processing. Another fifth is shipped west, mainly to Vancouver, and the rest—three-fifths—to eastern markets.

The Brooks and Vauxhall Areas: Nearly 100 per cent of the finished cattle are sold directly to packing companies and billed east to Regina, Winnipeg, Toronto and Montreal. Very few of the cattle from this area go west.

The Lacombe Area: Most of the finished cattle in the Lacombe area are sent to either Edmonton or Calgary for processing or to the stockyards in the cities for resale to buyers for points east or west.

The Edmonton Area: The majority of the finished cattle in this area are sent to Edmonton for processing or to the stockyards where they are bought and sent to points in eastern or western Canada.

Sheep and Lambs: The marketing of finished lambs and sheep follow very closely the pattern of the cattle marketing. The main difference is that an even higher percentage go into interprovincial or export trade. The finished lambs from the Lethbridge area go mainly to the far east or far west, each taking about 50 per cent. Vancouver, Toronto and Montreal are the main markets. There is occasional demand at Winnipeg, Regina and Edmonton. Nearly all the finished lambs in the Brooks area are sold directly to packing companies and billed to eastern Canada. Very few go west.

The finished lambs from the other feeding areas, namely Calgary, Lacombe and Edmonton areas, find their way to the stockyards for sale to buyers from eastern or western Canada. A few are shipped directly to the packing firms in the two larger cities.

Feeder Associations and Private Feeders.—There has been a change in the method of financing the distribution of 'feeder stock' among the feeders since the earlier years of the feeding enterprise in Alberta. In those days the farmer-feeder fed cattle under contract with the ranchers, and required no capital outlay for the stock. A few farmers were able to do their own financing and bought feeder stock outright but a large majority of farmers were not able to feed because they lacked sufficient capital.

In 1937 an Act of the Alberta Legislature known as *The Feeder Association Guarantee Act* was passed. Under this Act groups of feeders could organize into associations and receive financial assistance in the purchasing and selling of feeder and finished cattle and sheep, as well as advice on feeding and management. These associations have been an important factor in the rapid expansion of feedlot finishing in Alberta. Table 3 shows the volume of operations of the Alberta feeder associations since 1939.

Table 3.—Volume of Operation of Alberta Feeders' Association, 1939-1947[a]

Year	No. of Assoc.	Total Member-Ship	Number Feeding	Total Cattle Fed	Total Sheep Fed	Total Credit Provided
	—numbers—					dollars
1939	12	768	351	16,248	20,287	775,125
1940	12	968	451	17,056	37,863	954,490
1941	15	1,152	408	14,945	41,157	1,117,186
1942	17	1,236	437	13,279	31,452	1,092,768
1943	16	1,140	395	11,639	53,768	1,191,642
1944	15	1,128	257	7,968	46,537	834,458
1945	14	903	319	9,556	60,845	1,098,292
1946	13	840	245	7,057	37,036	729,448
1947	12	911	239	8,088	26,241	859,922

Source: Annual Reports of the Department of Agriculture of the Province of Alberta.

[a] Year starting June 1st.

As the number of feeder association members increased, the number of feeders able to do their own financing increased. In this group there are two types. First there are the large private feeders, who usually make feeding their main enterprise, and will feed, as a rule, from 200 to over 1,000 cattle or lambs. The second are the small farmer-feeders who are spread throughout the province. Feeding is nearly always a sideline for them, usually covering half a dozen to a hundred animals.

The Trend in Livestock Feeding.—The trend in livestock feeding is very difficult to evaluate, because of the many factors which must be taken into consideration. Price and availability of feed are the two most important factors, but the export market and population increases are also significant considerations.

Both cattle and lamb feeding increased to a considerable extent during the war years. This increase came about because of war-time restrictions on export of live cattle to the U.S.A. and the increased demand for beef in Canada and overseas. The feeding of cattle has remained at a high level until the present. However, during the latter part of 1949 and early part of 1950 a heavy demand for feeder cattle has arisen in the United States, and with the relatively high price offered by United States buyers, has decreased the numbers available for Alberta feedlots. If this trend continues for the next few years a shortage of cattle available for feeding purposes in Alberta may arise.

The trend in lamb feeding was similar to that for cattle, until 1945. Since then a substantial decrease has been noticeable. Some of the reasons for this decrease have been the decline in sheep numbers, the high price of feeder lambs, the high price of grain, a scarcity of sheep-herders and a shortage of labour for feedlots.

Livestock feeding is a permanent industry in Alberta. The province has all the advantages favouring a large feeding program. It has large native pasture areas in the south, feed growing areas in central and northern parts of the province, and good shipping facilities in the cities of Edmonton and Calgary which are ideally situated to serve most of the province.

SIZE OF MEMBERSHIP IN CANADIAN CO-OPERATIVES, 1948

J. E. O'MEARA

According to records received for the year 1948 there were 3,553 co-operatives registered or incorporated in Canada. This Division received 2,249 complete and usable returns which indicated a total membership of 1,127,229 which is an average size of membership of just 500. There is no doubt unavoidable duplication in this figure since a farmer may and often does belong to more than one co-operative. He may sell his eggs to one and purchase his supplies from another. He may market his grain through the wheat pool and his dairy products through the co-operative creamery. This duplication should be considered in any discussion of membership in co-operatives.

Nearly 3,000 co-operatives reported size of membership in 1948. From these reports and a tabulation of the number of members it can be seen that almost 82 per cent of all co-operatives reported their membership as under 500 and 74·6 per cent were under 200. Over 50 per cent reported membership of less than 100.

While membership and volume of business have been increasing rapidly over the last five years it would seem that the increase in membership does not necessarily arise from an increase in the number of members of larger and older co-operatives. Rather it is more evident that the greater number of new incorporations during this period have accounted greatly for the overall continued increase in the total membership. These many new co-operatives generally start with a very few members which accounts for the fact that 1,571 co-operatives reported in 1948 that their membership was less than 100.

Thus, by far the majority of co-operatives in Canada are small in number of members and it is not strange to find this pattern in all provinces. Among the provinces, Quebec has the largest number with a small membership. This is undoubtedly due to the numerous housing co-operatives, electricity co-operatives, student co-operatives and forestry co-operatives where the potential membership is relatively small and also affected by the type of co-operative concerned. The number of Quebec co-operatives with membership of less than 100 is 632. Ontario has 302 co-operatives with less than 100 members and Saskatchewan is next with 222.

Co-operatives having a membership of 1,000 or over number 28 in Ontario, 21 in Alberta, 21 in Saskatchewan, 15 in British Columbia, 14 in Manitoba and 11 in Quebec. In the Maritime Provinces there are four co-operatives reporting membership greater than 1,000.

There are 18 co-operatives in Canada which report their membership as greater than 10,000. These are distributed as follows: Alberta 6, Saskatchewan 5, Manitoba 5, Ontario 1 and Quebec 1. It should be noted here that some of these co-operatives with membership figures over 10,000 are operating in more than one province but for the purposes of this tabulation have been counted in the province where their head office is situated.

MEASURES OF RELATIONSHIPS BETWEEN HOG AND FEED PRICES

F. M. SCHRADER

An indication of the relative profitableness of hog production may be shown by relating the price of hogs to the price of feed. This may take the form of an index indicating the relative changes in the price of feed and in the price of hogs. It may take the form of the difference between hog prices and feed costs, expressed in dollars and cents. This latter type of measure requires a number of assumptions concerning quantities of feed used although this need not be a serious defect of the method.

Four methods of indicating the relative profitableness of hog production are presented below. The main purpose, at the moment, is to discuss these four methods. In presenting them, it has been necessary to use prices of barley to represent prices of hog feed. It is aknowledged that there are important weaknesses in this assumption; the main ones being that barley may not be the most important component of hog feeds, and that barley prices may not be representative of feed grain prices. However, for the comparison of the flour feed-hog price relationships, barley prices may serve as a useful representative of feed prices.

Hog-Barley Ratio.—The Hog-Barley ratio is calculated by dividing the price of hogs, including quality premium, by the price of barley. The result is the number of bushels of barley required to equal in price 100 pounds of hog. A high ratio is said to be more favourable to hog production than a low ratio. The Hog-Barley ratio series which has been published, is on a live hog price basis. The reason for this is that up until relatively recent times hogs were sold on a live weight basis. However, a carcass ratio could be presented on a carcass basis. The ratio is calculated on the basis of Winnipeg prices mainly because Western Canada is a surplus producing feed grain and livestock producing area.

On the basis of average prices of hogs and barley at Winnipeg in 1949, the live basis Hog-Barley ratio was 19·0. The dressed basis Hog-Barley ratio was 25·4.

Selected average monthly ratios are as follows:

Month	*Live Basis*	*Carcass Basis*
December, 1947..............	13·9	18·5
December, 1948..............	22·0	29·3
December, 1949..............	16·7	22·2

The main advantages of the Hog-Barley ratio are as follows:

(1) It is relatively simple to calculate.
(2) No arbitrary estimates to feed requirements are necessary.
(3) A ratio based on Winnipeg prices would apply equally to other areas.
(4) Producers and members of the trade are becoming used to this measure.

Among the disadvantages may be listed:

(1) It is rather difficult to understand.
(2) It is only one of several factors affecting variations in hog production.

Feed Costs per 100 pounds of Hog Carcass.—The estimated cost of feed required to produce 100 pounds of hog carcass may be tabulated alongside the market price of hogs. This would indicate to producers the part of the market price that is required to meet feed costs. Using an estimate of 21 bushels of barley to produce one hog of market weight and to cover that hog's share of the sow's upkeep, and using Winnipeg prices for No. 1 feed barley and B_1 hog carcasses, the feed cost per hog in 1949 was $24.15. This amount was required to produce a 200 pound hog or a 150 pound hog carcass. The feed cost per 100 pound hog carcass was $18.11. The average price of B_1 hog carcasses at Winnipeg was $28.49 in 1949 or $29.16 including the quality premium.

Corresponding data for selected months are:

Month	*Feed Cost per 100 lb. carcass*	*Price per 100 lbs. B_1 carcass + premium*
December, 1947..............	$19.90	$22.22
December, 1948..............	15.72	29.27
December, 1949..............	19.70	27.52

Advantages of this measure include:

(1) It considers current costs and prices.
(2) It does not require any norm or base period for comparison.
(3) Farmers may estimate the other costs that must be covered in production and determine whether or not there is a net gain.

Disadvantages of this method include:

(1) It could be interpreted as the full cost of production and would thus be misleading.
(2) Using the assumption that feed costs make up 80 percent of the cost of production, a further calculation might be made to estimate 100 percent of the cost of production. This, in fact, would be misusing the data.
(3) It is necessary to assume average feed requirements.

Margin Over Feed Costs.—This is a single value obtained by subtracting the feed cost per unit of product from the market price. On the basis of 1949 prices at Winnipeg, this would be $11.05. This sum is available from the sale of 100 pounds of hog carcass to cover costs of labour, housing, marketing, interest on investment, etc. It is left to the individual farmer to decide if this is a sufficiently large sum to cover his costs as he estimates them.

The margins over feed costs for the selected months are:

Month	*Margin over Feed Cost*
December, 1947	$ 2.32
December, 1948	13.55
December, 1949	7.82

The advantages and disadvantages of this method are the same as those for the "feed cost per unit of produce" method.

Returns per $1.00 of Feed Cost.—This measure of profitableness of hog production shows the value of hogs produced from $1.00 of feed. It is calculated as follows: The quantity of No. 1 feed barley which could be purchased with *$1.00* was ·88 bushels at Winnipeg in 1949. Assuming 21 bushels of barley are required to produce one 200 pound hog which will yield 150 pounds of hog carcass, ·88 bushels of barley are used to produce 6 pounds of hog carcass. The value of 6 pounds of hog carcass was *$1.75* in Winnipeg (the average price for B_1 hogs in 1949 was $29.16).

This measure may be obtained by multiplying the carcass hog barley ratio by 7·142857.

Monthly average returns are:

Month	*Returns per $1.00 of feed purchased*
December, 1947	$ 1.32
December, 1948	2.09
December, 1949	1.58

The advantages of this method include:

(1) It deals with current costs and prices.
(2) It would permit farmers to form their own opinion of the profitableness of hog production on the basis of their own operating costs.

Among the disadvantages may be included:

(1) It may be difficult for producers to understand and apply.
(2) It assumes certain average feed requirements.

Any series to be published indicating the relative profitableness of hog production should be designed so that it will provide producers with the greatest amount of information to aid them in making decisions when they are planning breeding programs. Complete explanations and descriptions of the methods of calculations accompanying such tables in the form of footnotes would permit farmers to make calculations on the basis of their particular costs and prices.

REVIEW OF LITERATURE

Readings on Agricultural Policy. Assembled and published under the sponsorship of the American Farm Economic Association. Philadelphia, U.S.A. (Toronto, Canada). The Blakiston Company. 1949. pp. xi + 470.

Readings on Agricultural Policy is a collection of 34 papers, previously published, dealing with various phases of agricultural policy in the United States. The Editors have drawn upon articles by individuals and upon reports by committees. The selection of articles and reports provides a fair representation of opinions prevalent in the United States during the past 15 years. As a result, the book is a good reference for those interested in agricultural policy.

The Editors devided the book into four parts: (i) Background, (ii) Price and Production Adjustment, (iii) International Trade and Relations, and (iv) Land and Rural People. Understandably, more space was given to the section on Price and Production Adjustment.

A Survey of Contemporary Economics. Edited by Howard S. Ellis. Published for the American Economic Association. Philadelphia, U.S.A. (& Toronto, Canada), the Blakiston Company. 1949. pp. xv + 490.

The scope of this collection of articles is illustrated by the titles: *Value and Distribution; Employment Theory and Business Cycles; Monopoly and the Concentration of Economic Power; Price and Production Policies; Federal Budgeting and Fiscal Policy; The Theory of International Trade; Economics of Labor; Development and Use of National Income Data; Monetary Theory; Dynamic Process Analysis; Econometrics; Socialist Economics; and The Prospects for Capitalism.*

As indicated in the preface,

> The period under review began in the worst depression in our history, continued through our biggest war, and extends into the time of our gravest concern for the future. It is little wonder that these years produced an amazing efforescence of economic ideas... Probably no decade or score of years in the entire history of economics could match those just passed, in innovation, sharpness of controversy, and volume of writing.

An interesting feature in this book is the addition of statements by critics to each article.

Economic Development in Selected Countries. Plans, Programmes and Agencies. Vol. II. United Nations, Dept. of Economic Affairs. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto), 1950. pp. xiii + 271.

This is the second in a series of studies dealing with economic development programs of individual countries. It covers Australia, Bulgaria, Columbia, New Zealand, the Philippines, Puerto Rico, Southern Rhodesia, and the Union of South Africa.

Review of International Commodity Problems 1949. Prepared by the Interim Co-ordinating Committee for International Commodity Arrangements. United Nations, Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto), Feb. 1950. pp. viii + 76.

This study is the third of a series of annual reviews of international commodity problems to be published by the United Nations Secretariat. It draws attention to certain general features of current commodity problems: the recovery, during 1948-49, of production in areas devastated by the war; the decline in post-war "pent up" demand for a number of commodities; the growth of bilateral agreements under the stimulus of currency difficulties; and the reduction in international allocation of commodities. It also draws attention to the need to relate production programs for economic development to the world situation in the commodities concerned.

The Review notes that international currency difficulties have reduced the volume of international trade in primary commodities during the past year and that some difficulty has been experienced in disposing of supplies from hard currency areas in spite of continuing shortages in other countries.

These currency difficulties have stimulated the use of bilateral agreements. Many of these are for the purpose of obtaining urgently needed imports; some countries have been anxious to ensure that they obtain needed imports in return for their exports. In some cases bilateral arrangements have been made pending the establishment of a wider multilateral agreement.

An outline of recent intergovernmental action to deal with commodity problems is given, including some discussion of the new International Wheat Agreement. Although few formal agreements have resulted, it is pointed out that intergovernmental discussion of commodity problems has real value in developing an understanding by the various governments of the total world situation of the commodity concerned. Texts of existing intergovernmental commodity agreements including the 1949 International Wheat Agreement are contained in this report.

The recommendations made as regards international action in the marketing of commodities include:

> Commodity discussions and arrangements should be open to both producing and consuming countries. Each Government which considers itself substantially interested should be able to participate.
>
> ...information regarding intergovernmental discussions on commodity problems should be circulated as widely as possible. An extension of present publicity will inspire greater confidence that the interests of both consumers and producers are receiving consideration.
>
> There is a need for further study of many general questions relating to the operation of commodity agreements, e.g. regarding agreements providing for the expansion of production of primary commodities; agreements for commodities not readily graded; stock reserves to stabilize prices and to ensure supplies; and possible procedures for sales of basic food at special prices.

Is also contains summaries showing current trends in 22 internationally traded commodities (cotton, coal, fats and oils, iron and steel, petroleum, rubber, sugar, etc.). Particular attention is paid to international trade and price movements of these commodities.

Canada's total imports from all countries reached an all-time peak value in May, while the values of imports from the United States and from the United Kingdom alike were also at new peaks.

Total crop production in the United States in 1950 will be considerably less than in 1948 and 1949; nevertheless, it may exceed that in 5 out of the last 8 years of high production and will be much larger than in any year prior to 1942. Large acreages that are usually in corn, wheat, cotton and other crops now under allotment programs, have been diverted to uses that will contribute less to this year's production total. The season was adverse for seeding spring small grains, but since mid-May some of the backwardness has been overcome and yield prospects have improved. Larger acreages of corn, soybeans, sorghums and hay than intended earlier have been planted under mostly favorable conditions. Widespread improvement in economic activity to a new post-war high has strengthened demand of products generally in the United States.

The first volume in this series, which was issued in October 1947, included surveys of the Anglo-Egyptian Sudan (Condominium), Argentina, Bolivia, Brazil, British African Non-Self-Governing and Non-Metropolitan Territories, Chile, Egypt—as well as a brief general account of development in other countries of the Middle East—French North Africa and French African overseas territories, India, Liberia, Mexico, Peru, Poland, Venezuela and Yugoslavia.

This report, based on official sources, is limited to a factual descriptive account of the most significant aspects of the countries' programs for economic development and briefly surveys national governmental organizations responsible for the implementation of the programs. The report mentions, in a general way, the obstacles encountered in the various countries and some of the methods of overcoming them, but does not attempt to appraise the problems and progress of economic development.

The report is an excellent source of information, and readers interested mainly in agriculture will find a considerable amount of data both on the economic and social aspects.

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS
FRANK SHEFRIN, Editor

OCTOBER 1950 Vol. XX, No. 5

CONTENTS

Page
The Economic Situation.. 99
Marketing Margins of Selected Agricultural Products—
....................................*F. M. Schrader* 101
Volume of Business of Canadian Co-operatives, 1948—
....................................*J. E. O'Meara* 105
Some Economic Aspects of Tobacco Farming in Ontario
....................................*W. E. Haviland* 107
Recent Trends in Farming in Irrigated Areas of Alberta—
....................................*H. K. Scott* 113
Current Federal Agricultural Programs Affecting Prices of Farm Products.......................... 118
Review of Literature.. 120

MARKETING SERVICE, ECONOMICS DIVISION
J. F. BOOTH, Associate Director

Published by Authority of the Right Honourable James G. Gardiner,
Minister of Agriculture

ANNUAL AND MONTHLY INDEX NUMBERS (a)

Wholesale Prices, Farm Prices and Living Cost Indexes

Year	Wholesale Prices 1935-39=100			Farm Prices of Agricultural Products 1935-39=100	Commodities and Services used by Farmers 1935-39=100		Cost of Living 1935-39=100	
	Farm Products (b)	Field Products (c)	Animal Products (d)	(e)	Equipment and Materials (f)	Eleven Factor Index (g)	Farm Living Costs (h)	Urban Living Costs (i)
1913	...	...	...	...	85·4	...	80·1	79·1
1914	...	...	...	...	90·2	85·3	82·3	79·7
1915	...	...	...	...	96·9	91·6	86·5	80·7
1916	...	...	...	...	101·7	100·5	93·7	87·0
1917	...	...	...	...	140·7	140·5	111·5	102·4
1918	...	...	...	...	164·1	160·2	131·1	115·6
1919	...	...	...	...	169·1	167·9	143·0	126·5
1920	...	...	...	...	190·1	186·5	171·3	145·4
1921	...	...	...	...	147·4	152·5	139·9	129·9
1922	...	...	...	...	124·6	134·1	127·9	120·4
1923	...	...	...	...	118·3	130·6	128·3	120·7
1924	...	...	...	...	122·3	131·9	125·5	118·8
1925	...	...	...	...	123·2	131·8	123·9	119·8
1926	144·4	158·5	130·2	...	119·9	130·6	121·1	121·8
1927	138·6	149·4	127·8	...	119·9	131·2	119·8	119·9
1928	136·3	134·3	138·2	...	118·3	129·3	118·5	120·5
1929	140·8	137·2	144·4	...	117·6	127·9	117·3	121·7
1930	119·5	105·8	133·3	...	105·6	117·0	113·7	120·8
1931	78·9	65·0	92·7	...	92·2	100·9	103·9	109·1
1932	65·5	60·4	70·5	...	89·3	93·3	97·8	99·0
1933	69·3	69·3	69·2	...	88·8	89·8	95·8	94·4
1934	83·5	80·5	86·5	...	96·8	95·5	97·9	95·6
1935	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	165·3	160·4	170·2	184·2	125·9	152·1	123·2	119·5
1946	177·0	172·9	181·2	200·8	128·0	157·0	127·1	123·6
1947	189·7	179·1	200·2	212·5	139·5	170·4	138·3	135·5
1948	229·6	195·6	263·7	252·4	173·1	196·9	162·8	155·0
1949	(j) 225·2	(j) 184·9	(j) 265·4	250·5	180·3	201·8	173·2	160·8
1949								
Aug.	225·9	182·4	269·3	252·8	180·2	204·2	174·5	162·8
Sept.	222·6	182·0	263·3	248·2	...	...	...	162·3
Oct.	219.7	181·9	257.6	245·7	...	...	...	162·2
Nov.	222·0	180·6	259·3	244·7	...	...	...	161·7
Dec.	219·9	179·8	259·9	245·4	...	...	...	161·5
1950								
Jan.	217·2	180·9	253·5	238·5	184·4	196·3	175·3	161·0
Feb.	219·9	180·2	259·6	242·7	...	...	...	161·6
Mar.	224·8	183·6	266·0	246·0	...	...	...	163·7
April	226·8	185·6	268·0	248·8	191·2	209·9	176·7	164·0
May	229·6	186·3	272·8	249·5	...	...	...	164·0
June	238·8	188·6	289·1	258·0	...	...	...	165·4
July	242·2	188·0	296·3	262·0	...	...	...	167·5
Aug.	229·3	160·2	298·5	251·6	...	...	...	168·5
Sept.	...	...	...	...	...	...	...	169·8

(a) **Revised each issue.**

(b) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo). Ottawa, Monthly. Wholesale prices of products of Canadian farms.

(c) Ibid (b). Wholesale prices of grains, hay, tobacco and potatoes.

(d) Ibid (b). Wholesale prices of animals and animal products.

(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo). Ottawa. Monthly.

(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo). Ottawa, Jan., Apr., and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.

(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.

(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.

(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

(j) Preliminary.

THE ECONOMIC SITUATION

The tempo of economic activities has quickened with the development of the Korean conflict. Economic indicators are pointing upward for the final quarter of 1950. The wholesale price index and the cost-of-living index had already advanced five and three per cent respectively between January and June 1950. Since the Korean incident, prices have moved upward more sharply. The response of employment and production to the new stimulus will be less spectacular. But rising activity and gathering inflationary pressures in the last quarter of the year are now foreshadowed, in strong contrast to the declining trends evident in the final quarter of 1949. This has been recognized by the Government of Canada, and two major steps have been taken to meet the new inflationary threat. First, early in September new taxes were announced to help meet additional defence costs, designed to bring about a near balance in the Federal budget for the fiscal year ending March 31, 1951. Still heavier armament expenditures are anticipated for the next fiscal year and the Government has committed itself to *pay-as-you-go* taxation policy. Second, The Essential Materials (Defence) Act, passed by Parliament in September 1950, gives the Government the power to allocate, and to control the prices of essential materials and services. It is stand-by power to be invoked by order-in-council if and when voluntary allocation is not practicable or satisfactory or if exorbitant prices appear to be interfering with the desired distribution of essential materials.

Production.—Canada's 1950 wheat crop is now placed at 490 million bushels, according to the second estimate of principal field crops released by the Dominion Bureau of Statistics. The total seeded area is 27,500,000 acres with an average yield of 18·1 bushels per acre. Production in bushels for the various other grain crops is estimated as follows:—Oats, 415 million; barley, 179 million; mixed grains, 71 million; rye, 14,600,000; and flaxseed, 4,900,000. The yield of hay and clover is placed at 12,900,000 tons, and alfalfa at 3,200,000 tons.

The second estimates of production of grain crops are lower than those issued at mid-August. Severe frosts which struck Saskatchewan and to a lesser extent Alberta and Manitoba in the 10 days following the release of the first crop report were chiefly responsible for the drop in production estimates. Wind and rain storms in some sections of the Prairies and snow in the Peace River area also contributed to the decline.

Since the harvest of spring grains as well as of late crops is abnormally delayed this year over much of the country, these estimates should be considered in the nature of forecasts and may be subject to significant revisions in the light of actual harvesting conditions. The yield estimates are based on August 31 reports from crop correspondents and on information supplied through the officials responsible for agricultural statistics in each of the provinces.

The 1950 wheat crop estimate is 123 million bushels above the 1949 yield and 96 million bushels above the 10-year (1940-49) average of 394 million bushels. Canada's 1950 oat crop is 97 million bushels above the 1949 outturn and about 12 million above the 10-year average. The increase over last year is shared by all provinces except Nova Scotia and British Columbia—the heaviest gains occurring in Saskatchewan and Alberta. Barley production is about 59 million above last year's crop of 120 million and some 18 million above the 10-year average. The anticipated production this year exceeds that of 1949 in all provinces except Nova Scotia—with most of the gain taking place in the Prairie Provinces.

The potato crop is forecast at 55,400,000 hundredweight as compared with the 1949 crop of 53,500,000, reduced yields in the important producing provinces of Prince Edward Island and New Brunswick having been more than offset by increased production in all other provinces except British Columbia. Average annual production for 1940-49 was 45,500,000 hundredweight. A record Canadian production of just over one million tons of sugar beets is forecast for 1950. A substantial rise in acreage in all four producing provinces accounts for the indicated increase over last year's outturn of 858,700 tons.

Production of non-agricultural goods has continued at levels over that of 1949. The index of industrial production in June was 201·0 compared with 178·7 in the same month of 1949, and the average for the first six months of the year was nearly 4 per cent above that of the same period a year ago. The following sections partly illustrate the scope of the increased activity.

The Canadian output of steel ingots and castings reached a peak total of 2,234,526 tons in the first eight months of this year, being above last year's high total of 2,163,620 tons for the same period. Factory shipments of Canadian-made motor vehicles, which have been climbing at a rapid rate, showed a sharp rise in June to reach a total of 41,383—second highest monthly figure on record. The aggregate for the first eight months of the year was 256,168 as compared with 185,973 in the similar period of 1949.

Canadian manufacturers turned out an all-time record number of household electric refrigerators in June and in the first half of this year, while the output of domestic-type washing machines was lower than in 1949 both in the month and the half year. In the half year, 158,314 units were produced compared with 84,776 in the same period of 1949. Factory shipments were also up sharply, rising to 35,805 units in June from 14,008, and in the six months to 158,233 from 77,063.

Output of 13 of 16 of Canada's leading minerals was higher during the first six months of this year than in the corresponding period of 1949.

Industrial employment and per capita weekly salaries and wages showed further increases at the beginning of August, according to advance figures released by the Dominion Bureau of Statistics. As a result of the gains, the August 1 index of employment in the eight non-agricultural industries reached a new high for that date, and per capita weekly salaries and wages rose to an all-time high level.

Exports.—Featured by a sharp gain in shipments to the United States, Canada's domestic exports to all countries in August rose to $257,100,000 from $251,700,000 in the corresponding month last year. This year's August total was two per cent above that for the same month last year and eight per cent above the average of $238,400,000 for the first six months of the year. During the eight months ended August the aggregate value was $1,941,400,000 as against $1,917,600,000 in the similar period of 1949.

Prices.—Canadian wholesale prices moved upward in August for the eighth successive month to reach an all-time high record level, according to index numbers compiled by the Dominion Bureau of Statistics. The August index, on the base 1926=100, stood at 168·5, up 1·6 points above the new peak established in July, and 13·1 points above August last year. Since the first of the year the index has risen from 157·1.

Wholesale prices of general building materials and of residential building materials continued their recent marked upward movement in August. The wholesale price index for general building materials advanced 2·8 points over July and 28·8 points over August, 1949, to reach a new high of 227·0. The composite price index for residential building materials also rose to a new peak at 247·6, up 2·4 points over July, and 21·3 points above August last year.

Farm prices of agricultural products continued to rise. The index of prices received by farmers for July 1950, initially placed at 262·0 is 4 points above that of the preceding month, 9 points above the corresponding month a year ago, and only 1·8 points below the all-time high of 263·8 established in August of 1948. The increase in the July index over that of June is attributable to rising prices for livestock, potatoes, poultry and eggs. Compared with a year ago, higher prices for livestock and potatoes have more than offset declines in the prices received from the sale of grains, dairy products, poultry and eggs.

Cost-of-Living.—Canada's official cost-of-living index advanced 1·0 points to 168·5 between July 3 and August 1. The index stood at 162·8 on August 1, 1949, and at 157·5 on August 2, 1948. From August, 1939, to August, 1950 the increase in the cost-of-living index was 67·2 per cent.

The Canadian Dollar.—On September 30 the Canadian Government, by Order in Council under the authority of the Foreign Exchange Control Act, cancelled the official rates of exchange which, since September 19, 1949, had been calculated on the basis of a 10 per cent premium for the United States dollar in Canada. It has been decided not to establish any new fixed parity for the Canadian dollar at this time, nor to prescribe any new official fixed rates of exchange. Instead, rates of exchange will be determined by conditions of supply and demand for foreign currencies in Canada. The general structure of exchange control remains unchanged.

MARKETING MARGINS OF SELECTED AGRICULTURAL PRODUCTS[1]

F. M. SCHRADER

The marketing margin is that part of the price of a commodity which is retained by middlemen for services performed and materials added. It may be considered as the cost of performing the various functions included in moving commodities from producers to consumers and making them available in the form and at the time and place required. A study was completed by the Economics Division of the Department of Agriculture in which an estimate was made of the margin between farm and retail prices for selected agricultural products during the period 1935-49. The objectives of this study are to provide an estimate of the spread between farm and retail prices, and to explain why it is greater in the case of some products than in others.

The scope of the study is limited, in the main, by the availability of satisfactory price series. In this report national annual average prices for Canada have been considered. The commodities which have been included are: wheat flour, white bread, potatoes, eggs, process cheese, butter, milk, beef, and canned tomatoes. These products represent the main groups of farm commodities produced in Canada; their retail cost comprises about fifty per cent of the family food bill, and they are related to the most important industries handling or processing agricultural products.

The basic data are farm prices and retail prices. The farm price per unit was made comparable to the retail price per unit on the basis of equality and quantity of product and is referred to as the farm equivalent value. For example, calculations were made of the price the farmer receives for that part of his wheat used in manufacturing one pound of wheat flour retailing as "family first grade wheat flour packed in seven pound bags". In this manner, the retail price of one pound of this grade of flour was compared with the farm price of 1·4 pounds[2] of wheat, less the estimated value at the farm of the by-products which are obtained from the manufacture of wheat flour.

Adjustments to Data.—The farm price and the equivalent farm value are the same if a commodity does not undergo physical or chemical change during the period between its sale on the farm and its sale at retail, if the two sales are made at the same time, and if there are no subsidies or other similar payments made in connection with the marketing. Under such circumstances the calculation of gross spread would be one of simple subtraction.

However, these conditions are met infrequently. It is necessary to make adjustments in quoted prices to achieve comparability between retail and farm products with respect to quality, quantity, time, by-product allowance, special taxes and payments.

The first adjustment is to make the farm price series and the retail price series refer to the same quality of product. The farm price usually refers to all sizes and qualities sold, whereas the retail price refers to a specific size and quality. The relationship that the price of the specific size and quality (e.g., grade "A" large eggs) bears to the price of all sizes and qualities must be determined so that a farm equivalent value for the specific (grade "A" large), may be determined. In some cases the adjustment was not sufficiently important to improve the accuracy of estimates and was not made.

The second adjustment is to compensate for changes in weight or volume of a commodity during the marketing process. For example, there is an average shrinkage loss of 8 per cent in the weight of potatoes during the journey from the farmer to the consumer; it requires 1.40 pounds of wheat as sold by the farmer to produce 1.00 pound of flour as sold by the retailer. The comparison of prices at farm and at retail level must take these quantity differences into consideration. Thus the farm price of 1.08 pounds of potatoes is comparable to the retail price of 1.00 pound. These are the number of units at the farm required to produce one unit at retail, and are called farm equivalent weights.

---

[1] See also: *Marketing Margins for Selected Canadian Agricultural Products, 1935-49,* by F. M. Schrader and F. W. Hillhouse. Processed pub. Ottawa, Dept. of Agriculture, Economics Div. 1950.

[2] This varies between 1.38 and 1.42 depending on the extraction rate.

The third adjustment is made when the weight change between producer and consumer gives rise to by-products having value. That part of the farm price which is due to the value of the by-product is removed so that the farm value of only the specific retail product may be obtained. The values of the main product and of the by-products were determined at the point of the physical separation. This is necessary to avoid distortion of either price due to value being added by processing, and was done at the factory or wholesale levels. The relationship between the by-product value and the total value at the wholesale level was applied to the farm value of the farm equivalent weight. The result was then subtracted from the farm value to obtain the net farm value of the retail article.

Government activity in the marketing field during the war and immediate postwar years has involved subsidies, drawbacks, rebates and special levies. A price spread between the amount which the farmer actually received and the amount the consumer actually paid measures the marketing charges to the consumer but does not necessarily measure the actual cost of marketing the product. On the other hand, the addition to the retail price of any payments, subsidies and drawbacks, and the deduction of any special taxes or levies, does result in a margin representing the actual cost of marketing. When an extraneous payment such as a subsidy or rebate payment was made into the marketing system, that same amount was not required from the final consumer and the marketing margin appears smaller by the amount of the payment. Similarly, when a levy was made at any point in the marketing system, the price spread between producer and consumer appears larger by at least the amount of the levy.

Adjustments were made for such extraneous payments to, or levies on, the marketing of each of the commodities considered in this report.

The basic data derived for each commodity were the national annual average price spread between producer and consumer, and the farmers' share of the consumers' dollar. These data were calculated in the following manner from the adjusted price series outlined above:

(1) The farm and retail price series were brought to a common denominator so that they became prices per unit of the same or equivalent products.
(2) Subsidies and other payments were added to, and special taxes and levies were deducted from the retail price.
(3) Farm prices were adjusted to show the value of the farm equivalent weight. Any payments made directly to farmers were incorporated if they were not already included in the original farm price.
(4) The net farm value of the farm equivalent weight was calculated by deducting any by-product allowance from the farm value.
(5) The price spread between farmer and consumer was determined by subtracting the net farm value from the adjusted retail price.
(6) The farm share of the consumers' dollar is the net farm value expressed as a percentage of the adjusted retail price.

The Size of Marketing Margin.—The average annual marketing margins, expressed in cents per retail unit, are presented in Table No. 1. There are important differences among the selected commodities with respect to the year-to-year variation during the 15 year period 1935-49. The marketing

Table 1.—Average Annual Marketing Margins for Nine Selected Commodities, 1935 to 1949

Year	Potatoes	Eggs All Grades	Fluid Milk	Creamery Butter	Cheese, plain process	Beef Comm. Quality	Wheat Flour	White Bread	Canned Tomatoes
	cts. 15 lb.	cts. doz.	cts. qt.	cts. lb.	cts. ½ lb. pkge	cts. lb.	cts. lb.	cts. lb.	cts. 28 oz. tin
1935....	9·5	7·7	7·0	12·0	9·0	6·8	2·7	5·0	9·3
1936....	11·5	7·3	6·5	11·8	9·7	7·1	2·6	5·2	10·0
1937....	13·4	7·1	7·1	12·1	10·5	6·6	3·1	5·3	11·3
1938....	9·1	7·3	7·5	12·8	10·9	7·8	3·6	6·0	9·7
1939....	10·8	7·0	7·0	11·3	10·0	7·7	2·6	5·6	9·3
1940....	13·5	7·8	7·1	12·0	11·5	7·9	2·9	5·7	11·2
1941....	12·6	9·5	7·1	11·4	13·6	8·1	2·8	5·7	11·6
1942....	18·1	12·2	7·0	11·8	16·2	8·0	2·9	6·0	11·8
1943....	17·2	13·2	7·3	12·2	15·3	9·4	3·1	6·0	12·6
1944....	19·4	11·7	7·1	12·2	15·5	10·1	3·2	6·1	13·3
1945....	20·0	11·2	7·0	12·1	15·6	10·2	3·0	6·1	13·3
1946....	19·5	11·0	7·0	12·5	15·6	10·2	3·0	6·0	13·2
1947....	22·7	10·5	7·1	13·3	15·7	11·1	3·5	6·7	16·0
1948....	27·7	12·0	7·9	14·1	18·1	12·7	3·8	8·1	22·0
1949....	26·6	15·4	8·2	15·4	20·4	17·5	3·9	8·4	16·8

margins of some products remained relatively stable during the 15 year period. For instance, the total margin paid to middlemen handling fluid milk between producers and consumers varied from 6.5 cents a quart in 1936 to 8.2 cents in 1949. During most of this period a margin of about 7.2 cents a quart prevailed. Similar stability existed with respect to creamery butter, flour and bread, although in all instances increased margins were experienced.

In contrast, the margins for the remaining five commodities were more variable and the increase of greater magnitude in the period 1935-49. The margin for marketing potatoes rose quite regularly from 9.5 cents per 15 pounds in 1935 to 27.7 cents in 1948, almost a threefold increase. The margins for such commodities as cheese and beef rose substantially and remained at the new level for several years before rising again, though the total increase from 1935-49 was considerably less than in the case of potatoes.

The Size of Farm Share of Retail Price.—The farm share of the retail price appears to have remained relatively stable in the case of those commodities for which the marketing margin increased markedly during the period 1935-49.

Table 2.—Farm Shares of Retail Price for Nine Selected Commodities, 1935 to 1949

Year	Potatoes	Eggs All Grades	Fluid Milk	Creamery Butter	Cheese, plain process	Beef Comm. Quality	Wheat Flour	White Bread	Canned Tomatoes
	—percentage—								
1935....	50·8	70·9	33·1	58·2	27·6	51·1	31·6	12·5	15·8
1936....	62·8	74·2	37·0	60·5	26·6	48·6	38·8	15·5	15·1
1937....	53·3	74·6	34·5	62·9	26·3	57·7	41·0	19·1	14·0
1938....	57·3	75·0	34·0	62·0	25·7	50·7	24·8	10·6	15·5
1939....	62·5	74·6	35·4	61·4	27·4	54·8	28·0	9·7	15·6
1940....	56·0	72·5	37·3	61·8	27·0	57·0	27·3	10·0	14·2
1941....	55·2	70·3	40·0	70·1	28·0	61·2	28·6	10·6	15·9
1942....	57·5	69·7	44·5	71·7	31·6	65·5	31·7	12·0	17·0
1943....	63·9	71·0	44·5	73·8	33·9	65·0	37·5	15·3	17·9
1944....	57·6	72·2	47·6	74·5	35·0	63·8	39·8	17·1	18·5
1945....	61·5	73·7	48·9	74·7	33·6	64·0	41·0	17·3	20·0
1946....	62·4	76·7	50·6	75·9	36·1	64·9	43·7	18·3	20·8
1947....	55·9	77·9	53·6	77·0	36·9	65·4	40·7	17·5	18·8
1948....	54·4	78·9	54·6	80·5	39·2	70·2	41·5	16·9	15·0
1949....	49·4	73·8	54·5	76·4	33·6	64·3	44·0	17·9	20·6

In the case of fluid milk, where a relatively small increase in the actual margin occurred, the farm share of the retail price rose from 33 per cent in 1935 to 55 per cent in 1948. On the other hand, the farm share of the retail price of potatoes, where the actual margin increased very appreciably, rose only from a minimum of 51 per cent in 1935 to a maximum of 64 per cent in 1943.

The farm share for commodities which undergo little or no processing during marketing is much larger in general than for those which are highly processed. For example, there is a relatively small amount of processing involved in the marketing of fresh eggs. The farm share of the retail price varied from 70 to 80 per cent during the period 1935-49. In contrast is the extensive manufacture and service involved in marketing white bread, and the relatively small farm share of the retail price of this product (10 to 20 per cent).

The farm shares of retail prices of the nine commodities are shown in Table 2.

Relation of the Marketing Margin to the General Price Level.—The cost of marketing the majority of the nine agricultural products, as reflected by the marketing margin, increased during the period under study. However, the prices of many other goods and services also increased during the same period. The general wholesale price index may be used as a measure of the general level of wholesale prices in Canada. If there has been a larger increase in the marketing margin than in the general wholesale price index, it may be said that there has been an increase in the *real* cost of marketing in addition to an increase in the *money* cost. If, however, there has been a greater increase in the prices of all goods and services, as reflected in the general wholesale price index, than in the marketing margin, it would lead one to the conclusion that the *real* cost of marketing had not increased even though the money cost had shown a tendency to rise.

In Table 3 is shown the cost of marketing the nine agricultural commodities relative to wholesale prices of all commodities. This was computed by dividing the marketing margin by the general wholesale price index

Table 3.—Average Annual Real Cost of Marketing Nine Selected Commodities, 1935 to 1949

Year	Potatoes	Eggs All Grades	Fluid Milk	Creamery Butter	Cheese, plain process	Beef Comm. Quality	Wheat Flour	White Bread	Canned Tomatoes
	cts. 15 lb.	cts. doz.	cts. qt.	cts. lb.	cts. ½ lb. pkge.	cts. lb.	cts. lb.	cts. lb.	cts. 28 oz. tin
1935....	13·2	10·7	9·7	16·6	12·5	9·4	3·7	6·9	12·9
1936....	15·4	9·8	8·7	15·8	13·0	9·5	3·5	7·0	13·4
1937....	15·8	8·4	8·4	14·3	12·4	7·8	3·7	6·3	13·4
1938....	11·6	9·3	9·5	16·3	13·9	9·9	4·6	7·6	12·3
1939....	14·3	9·3	9·3	15·0	13·3	10·2	3·4	7·4	12·3
1940....	16·3	9·4	8·6	14·5	13·9	9·5	3·5	6·9	13·5
1941....	14·0	10·6	7·9	12·7	15·1	9·0	3·1	6·3	12·9
1942....	18·9	12·8	7·3	12·3	16·9	8·4	3·0	6·3	12·3
1943....	17·2	13·2	7·3	12·2	15·3	9·4	3·1	6·0	12·6
1944....	18·9	11·4	6·9	11·9	15·1	9·8	3·1	6·0	13·0
1945....	19·3	10·8	6·8	11·7	15·0	9·8	3·0	5·9	12·8
1946....	18·0	10·1	6·4	11·5	14·4	9·4	2·8	5·5	12·2
1947....	17·6	8·1	5·5	10·3	12·2	8·6	2·7	5·2	12·4
1948....	18·1	7·8	5·2	9·2	11·8	8·3	2·5	5·3	14·4
1949....	16·9	9·8	5·2	9·8	13·0	11·1	2·5	5·4	10·7

(1926=100)[1]. The *real* cost of marketing potatoes increased fairly irregularly to 1942 and then showed a tendency to level off. The *real* cost of marketing eggs and cheese showed a similar tendency but declined during the last few years.

The *real* cost of marketing fluid milk, butter, flour and white bread declined gradually during the 15 year period. That is, the costs of all commodities increased more than the costs of marketing these products. The cost of marketing beef does not appear to have shown any marked tendency to increase or decrease during the period under study.

VOLUME OF BUSINESS OF CANADIAN CO-OPERATIVES, 1948

J. E. O'Meara

The volume of total business transacted by Canadian co-operatives in 1948 amounted to over $780 millions. Farm products marketed were valued at $616,347,477 while the sales value of goods of all kinds purchased and distributed co-operatively amounted to $157,874,045.

It has been estimated that 32 per cent of the main farm products entering into commercial trade channels is handled by co-operatives. Co-operatives engaged in marketing grain and seed numbered 82 and reported sales value of their products at $290,773,952. This represented 56.2 per cent of the value of all commercial marketings of grain and seed for the crop year ended July 31, 1948. Such a proportion indicates clearly the major part played by farmer co-operatives in the marketing of what is regarded as Canada's main farm product. For other commodities, co-operatives are important but not to the extent that the grain growers are. Co-operative marketing of dairy products was estimated to be 22.6 per cent of the total, live stock was 18.5 per cent and poultry and eggs 18.6 per cent.

The proportion of merchandise and supplies handled by co-operatives in Canada is estimated at about 1 per cent of the total value of all goods and services consumed. While this percentage is as yet quite small there is every indication that it will increase for the total volume handled by co-operatives in the last ten years has been steadily upward. Its growing importance in the total of co-operative business is evident when it is noted that 10 years ago the value of products marketed was six times as great as the purchasing volume whereas in 1948 it was only four times as great. This reduced ratio came about in a decade when the volume handled by both groups was increasing steadily and would indicate that, of the two, the purchasing group made the greater progress.

Of the two groups, the purchasing co-operatives have the more difficult task. Their growth has been slow in comparison to that of the farm marketing co-operatives. They must compete in a relatively efficient merchandising system which is aggressive and enterprising and which has left little room for appreciable savings in distribution costs. In addition, the great expanse of this country and the mobility exhibited by industrial workers have hampered co-operative organization of consumers. The hope for merchandising and supply co-operatives seems to lie in the growing strength of the farm supply co-operatives where farmers are taking advantage of co-operative techniques and group purchasing to control and possibly reduce their costs of production.

---

[1] The general wholesale price index increased gradually from 1935 to 1946 and then rose from 108.6 in 1946 to 129.1 in 1947 and to 153.2 in 1948.

Taken individually there are not many co-operatives in Canada which could be classed as giants in the field of marketing or merchandising although the wheat pools and the provincial co-operative wholesales, of course, report business volumes of millions of dollars. According to the records there are eleven co-operatives in Canada which do a business of over $10,000,000 per annum. Nearly 90 per cent of all co-operatives reporting had volumes of $300,000 per annum or less. Nearly one-third, or 759 co-operatives did business of less than $25,000. Included in this group are the many newly-incorporated co-operatives and also those important service co-operatives whose gross revenue in dollars does not actually measure their size or importance. This would include seed-cleaning plants, cold storage lockers and facilities and others where a rental or service fee only is paid.

Across the country this pattern is repeated from province to province. British Columbia, however, reported only 71 per cent with a business volume less than $300,000 and Saskatchewan reported 79 per cent in a similar position. The remaining provinces were all well over 85 per cent and Quebec, New Brunswick and Prince Edward Island were over 90 per cent. Quebec, however, has 193 co-operatives in the volume group between $50,000 and $99,999 which is far greater than any other province and greater than the number grouped in the two volume range of $25,000 to $49,999 and $25,000 and under. Nova Scotia similarly had more associations above $50,000 annual business than it reported in the two lower ranges.

In the higher brackets Ontario reported 39 co-operatives doing business of over $500,000 followed in the same range by British Columbia with 29, Quebec with 27 and Alberta with 21. The remainder reported less than twenty.

Generally, volume of business is regarded as a common yardstick of strength in business but in co-operative business, especially where volume is mainly the result of marketing of products which are subject at times to extreme fluctuations in price, it is not always a reliable measure. Physical volume of commodity handled in bushels, tons, boxes, etc., is by far the better but unfortunately is not always available. Reports by co-operatives to this Division are mainly financial and sufficient data on physical volume are not provided to enable an effective analysis of the growth of business to be made. This has been overcome to some extent by comparing the increases in value of farm products marketed co-operatively with the increases in the total cash farm income from the same products. During 1947-48 the value of co-operative marketings increased by 6·5 per cent over the previous year while cash farm income increased 5·6 per cent which would seem to indicate that, during the period at least, co-operatives increased their proportion of farm products handled.

Although in the overall picture the increase is not too large in some of the groups it is more appreciable. For example, among the co-operatives marketing dairy products the value of co-operative marketings increased by 32 per cent while the cash farm income increased by 26.5 per cent. Live stock, grains and fruits and vegetables also showed similar trends.

All the remaining import prohibitions and quota restrictions under Schedules I and II of the Emergency Exchange Conservation Act will be removed effective January 2, 1951. These import restrictions had been imposed in November, 1947, at a time when the drain on Canadian gold and foreign exchange reserves had reached dangerous proportions. By the autumn of 1948 Canada's trade position had improved sufficiently and reserves had recovered to a level which made it possible to begin the process of relaxation in these restrictions.

SOME ECONOMIC ASPECTS OF TOBACCO FARMING IN ONTARIO[1]

William E. Haviland

Tobacco is Ontario's most important crop, measured in terms of cash farm income.[2] Ontario farm receipts from the sale of tobacco amounted, in 1948, to $48,644,140, or about 7.35 per cent of the cash farm income from the sale of all farm products.[3] When comparison is made with the estimated total gross value of all agricultural produce in Ontario in 1948, the value of tobacco amounted to 3.8 per cent of this total.

The relative importance of tobacco in Ontario agriculture has increased greatly during the last 25 years. In 1924, the value of tobacco was only 1.15 per cent of the estimated value of all other Ontario field crops, and in 1928, it was 2.37 per cent, but in 1938 it was 15.1 per cent, and in 1948, 13.15 per cent. In acre-value terms, the tobacco crop is even more important than these figures indicate because in 1948 the tobacco was produced on only 1.07 per cent of the acreage of all field crops.

In 1948, the province of Ontario produced 89 per cent of the quantity of tobacco grown in Canada. The raw leaf tobacco of foreign origin which was taken from stocks for manufacture during the nine-month period January-September, 1948, amounted to only 2.06 per cent of the total leaf withdrawn for manufacture.[4] In 1948, Canada exported 9,803,825 lbs. of tobacco, mostly to the United Kingdom, and this amounted to about 9.78 per cent of the total tobacco produced in Canada in that year.

Flue-cured or "Virginia" is the main type of tobacco grown in Ontario, burley is next, and dark (air- and fire-cured) tobacco is least important. The value of Ontario flue-cured tobacco in 1948 was 90.5 per cent of the total value of Ontario tobacco, and the value of burley was 8.5 per cent. About 98 per cent of the Ontario flue-cured tobacco acreage is located in the "New Belt" in the counties of Norfolk, Elgin, Oxford, Brant, Middlesex, Simcoe and Durham.[5] In 1949 there were 3,507 farms in the New Belt which had been allotted tobacco growing rights by the Flue-Cured Tobacco Marketing Association of Ontario.[6] The average yield of flue-cured tobacco in Ontario is 1,126 lbs. per acre, and the typical annual tobacco acreage on a New Belt farm is about 27 acres. New Belt farms are, in the main, highly specialized.

The commercial history of tobacco farming in the "Old Belt" (Essex and Kent Counties) reaches back for at least 100 years. Burley, flue-cured and dark tobaccos are grown in this area, but burley is the most important kind. In 1948 there were 3,338 farms in the Old Belt which had been allotted burley tobacco growing rights by the Burley Tobacco Marketing Association of Ontario. There were only 2,791 farms actually growing burley in that year, however. The burley farms have a typical tobacco acreage of less than two acres, and the average yield is 1,197 lbs. per acre. The burley crop is usually only one of several cash crops on the diversified Old Belt farms.[1]

---

[1] Tobacco leaf marketing, farm organization and production problems will receive separate treatment in *The Economic Annalist*. The articles are based on some of the findings in the author's doctoral dissertation "The Economics of Tobacco Farming in Ontario". Cambridge, Harvard University, 1950.

[2] Then come vegetables and wheat.

[3] Ontario Dept. of Agriculture. *1948 Annual Report of the Statistics Branch.* Toronto, 1949. p. 17.

Canada. Dept. of Trade and Commerce, Dominion Bureau of Statistics. *Canadian Statistical Review*, Ottawa, June 1950, p. 84.

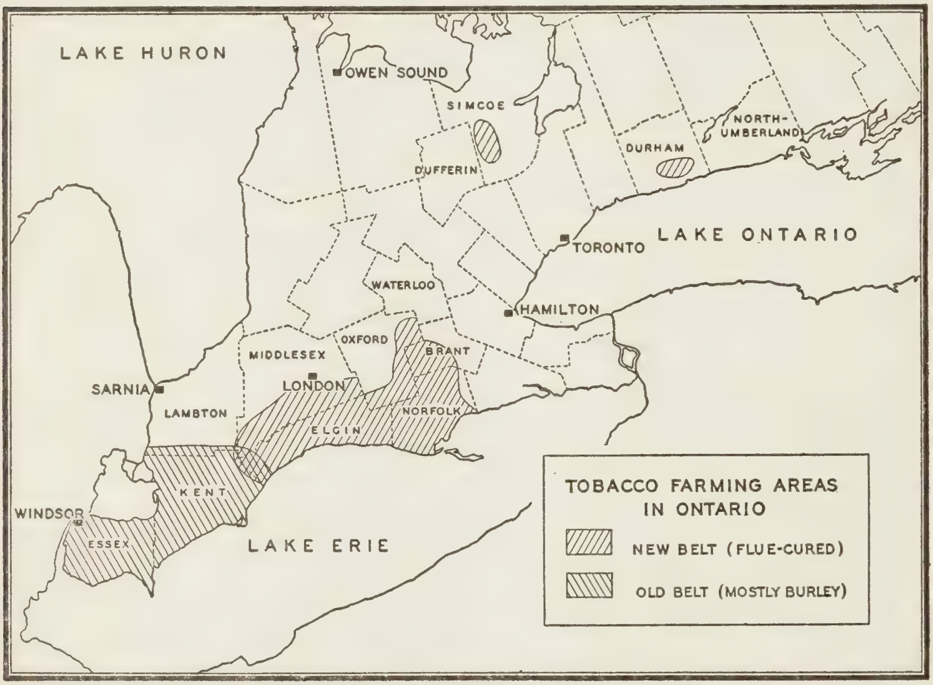
The 1948 crop year was chosen because tobacco acreages and yields in this year represent fairly well the post-war picture.

[4] Department of Agriculture, Experimental Farms Service, Tobacco Division. *The Lighter.* Ottawa, November 1949. pp. 2-4.

[5] The total base acreage allotted by the Flue-Cured Marketing Association is 109,000 acres, but acreage restrictions are a normal peace-time feature and the total is in practice 85,000-86,000 acres.

[6] Not quite all of these farms actually grow tobacco in any given year. There are relatively few farmers who are not members of the Association.

The Decline of the Old Belt and the Rise of the New.—Flue-cured tobacco was grown in the New Belt as early as 1919, but tobacco did not become commercially important in the area until about 1928 or 1929. Prior to this time, Essex County in the Old Belt was the chief producer of flue-cured tobacco in Ontario. The Department of Economics of the Ontario Agricultural College made tobacco farm surveys in the Old Belt in 1925 and 1926.[2] These surveys revealed that tobacco, and flue-cured tobacco in particular, was the most profitable cash crop in the Old Belt. Most of the Old Belt flue farms averaged less than 80 acres at that time, and many of the farms were highly specialized with an average of less than 45 acres. The specialized Old Belt flue farms were earning net incomes, at the time of the surveys, nearly twice as large as the diversified burley-growing farms.



By the end of World War I, smokers' tastes were undergoing a pronounced and sustained shift towards cigarettes, and the Canadian and English tradition in cigarette tobacco favours the bright yellow "Virginia" (flue-cured) leaf. Per capita yearly consumption of cigarettes increased in Canada from 285 in 1920 to 1,247 in 1949. The well-drained sandy soils which are best for flue-cured tobacco are not to be found to any great extent in Essex and still less in Kent. Also, the Essex flue leaf was rather too oily for ready export. Essex sands, moreover, had been over-cropped by successive years of tobacco and their productivity was falling. Suitable flue-cured tobacco land, therefore, was sought elsewhere. The extensive sandy soils in the Norfolk-Elgin-Oxford area soon demonstrated their comparative economic advantage over the Essex soils for the growing of flue-cured tobacco. In spite of the development of lighter (cigarette-type) burleys, the Old Belt area, so far as tobacco is concerned, suffered an eclipse. This statement applies more to Essex than to Kent County because the latter is now the major producing area for burley. The decline of tobacco, especially flue tobacco, in the Old Belt was accentuated in the last decade by the high war-time and post-war prices of alternative crops, especially vegetables and fruit.

---

[1] For the types of farming in and about the two tobacco belts see S.C. Hudson, R. A. Stutt et al. *Types of Farming in Canada.* (pocket map) Ottawa, Dept. of Agriculture, 1949.

[2] Copies of reports courtesy of Mr. J. Coke, Dept. of Agriculture, Economics Division, Ottawa.

Except for a major setback in the early 1930's, the New Belt tobacco farming industry has been expansionary and prosperous. The high degree of flexibility of the extensive margin of cultivation has caused considerable surprise to those people connected with the industry who have not given due consideration to the economic aspects of farming. Rises in leaf prices relative to costs made it both possible and profitable to push the extensive margin of cultivation onto poorer tobacco soils and into cooler and more distant regions. The impact of tobacco farming on the economy of the New Belt was all the more spectacular inasmuch as flue-cured tobacco thrived on the light-textured soils where other crops languished.

Norfolk County produces about 55 per cent of the New Belt flue-cured tobacco. It is in Norfolk that Canadian tobacco has aptly earned the title *Green Gold.* In recent years some sandy land in this county which had sold for $10 an acre before tobacco's advent was valued at as much as $300 an acre. The plight of Norfolk County as a whole prior to tobacco has sometimes been exaggerated, however. The more usual change in land values was a three- or four-fold increase, and some of this increase merely reflected the rise in the general price level. It is true, nevertheless, that many of the New Belt farms taken over for tobacco had previously been earning small incomes. In contrast, attractive modern homes, barns and kilns bear witness to the present prosperity of these farms.

Productivity.—There has been a notable rise in the productivity per acre of Ontario flue-cured tobacco farming, especially for the years 1920-40. The average yield for the years 1924-28 was 791 lbs. of leaf per acre compared with 1,104 lbs. per acre for the years 1944-48.[1] The increased productivity can be explained by the following influences: (1) heavier applications of fertilizer; (2) better fertilizers; (3) better methods of applying fertilizers; (4) adoption of the rye rest crop; (5) other better farming practices due to experience and the findings of experimental stations; (6) introduction of the priming method of harvesting; (7) bringing of fresh land into tobacco cultivation; and, to some extent, (8) the preliminary grading, tying and packing of tobacco by the farmer since 1943. Most of these factors have also tended to improve the quality of the flue-cured tobacco. Priming is important because it alows fuller use to be made of the short frost-free period in Ontario, especially on the northern frontiers of the New Belt, and because it enhances the quality of the leaf due to increased curing uniformity.

Burley tobacco yields, in contrast to those of flue-cured tobacco, display no upward drift. One possible explanation is that there was very little fresh land to bring into tobacco cultivation in the Old Belt. Another reason is that the trend toward the growing of lighter, lower-yielding, burleys offset the influence on weight of using better and more fertilizers. Finally, there have been no improvements in burley farming comparable to the introduction of priming in the New Belt.

---

[1] Canada, Dept. of Trade and Commerce, Dominion Bureau of Statistics. *Statistical Handbook of Canadian Tobacco.* Ottawa, 1947. p. 9.

Labour.—The labour which has to be managed on Ontario tobacco farms includes that of the operator himself, and perhaps of his family, as well as that of any full-time and seasonal hired help. The tobacco farmers in both belts typically have one full-time hired man. The wages of the hired help in both belts and especially in the New Belt are high relative to those in other Ontario farming areas. Old Belt farming, especially in Essex County, has to compete to some extent with the industrial wage rates in nearby Windsor and Detroit. There is some migratory labour in the Old Belt, but it is not specifically on account of the tobacco crop and still less because of the burley tobacco crop.

The importance of the labour factor, especially family and seasonal labour, relative to the over-all farm picture is spectacular in the case of flue-cured tobacco farming in the New Belt. As the New Belt expansion got under way, new labour elements arrived to do much of the tobacco farming. Some of the newcomers had been growing tobacco on shares in the Old Belt. Some came from the United States tobacco regions. Many came from Europe—Belgians, Poles, Hungarians, Czechs, and Roumanians. Some of these new Canadians had little or no experience with tobacco, but most of them were ambitious and energetic. If they could not afford to buy farms from the native Anglo-Saxon stock at the outset, the new Canadians grew on shares for private or corporate owners or worked as labourers until they could finance down payments and mortgages on farms of their own.

A matter deserving special mention at this point is the New Canadian tobacco farm family. Certain characteristics of this family unit have operated to make it a distinct advantage in New Belt farming. The energy and ambition displayed by many of the New Canadians were important because of the back-breaking work involved in tobacco farming. The large size of the families was especially important because of the patriarchal and cohesive nature of the family units, at least for the first generation. The large family unit obviates the necessity of hiring full-time help and full harvest gangs. Furthermore, the New Canadians brought with them a very effective form of family finance which enabled the rapid accumulation of capital. The system amounts to ploughing back into the farm business almost all of the earnings of the whole family. The sons and daughters often are paid spending money only and their accrued wages are invested in the farm. Then, when a member of the family gets married, the head of the family often sets the young couple up with a complete, or partially complete, farm unit.

Migratory labour is a conspicuous feature of the New Belt flue-cured tobacco harvest, especially in the Norfolk-Elgin-Oxford district. The extremely high harvest labour load there can be supplied only by a large supply of migrant labour in July, August and September. Nearly one-third of the people involved in the Norfolk tobacco harvest are migrants. Rather serious, if temporary, social problems are raised by the presence of this migratory harvest labour. The chief problems are housing, food and discipline.

The diversity of backgrounds, motives, and even languages, of the transients makes the management of the harvest gang difficult and important in the New Belt. A typical farm operator cannot handle well more than about 30 acres of tobacco, largely because of the difficulty of managing the harvest operation labour-wise. If crops other than tobacco are added to the flue farm picture in order to use some of the July-September labour at other times of the year, additional labour would still have to be hired to care for the other crops whenever their labour needs conflict with the tobacco operations. This is because of the relative economic advantage which tobacco enjoys over other crops in the New Belt. Unfortunately, no labour-use or work-simplification studies have yet been made to guide the farmer in these matters.

Tenure.—This section is confined to the New Belt except to record in passing that it is the usual practice in the Old Belt for the farm owner-operator to handle the burley crop. Corporate as well as private farming played an integral part in the development of the New Belt, however. The New Belt tobacco farm companies built their production units pretty much around existing (non-tobacco) farms and usually on a share-tenant basis in order to preserve the interest of the family group in the enterprise. Successful tenants soon bought their own farms, however, and poor tenants kept drifting. The corporation usually contracted to provide the equipment for the farm, to meet the overhead expenses, and to pay for half of the consumable supplies and half of the curer's wages. The share-tenant supplied all of the labour, boarded the curer, and paid for half of the consumable supplies and half of the curer's wage. The company retained substantial control of the major production policies of the farm. The company and the tenant shared the tobacco receipts equally. This agreement was typical also of the numerous private owner-share-grower contracts.

A noticeable change has been taking place in the terms of the typical New Belt owner-tenant contract, mainly because of the relative rise in labour costs. The owner now meets more of the items of farm expense, and the tenant gets more consideration, than formerly. With a distribution of expenses like that just described, the tenant would now usually get 55 per cent of the tobacco recepits. Furthermore, the share-tenant often gets a bonus for good tobacco. The contract has remained on a yearly basis, but, where relations are mutually satisfactory, the original contract often is just endorsed from year to year.

The tobacco corporation issued preferred stock and no-par-value common stock and the preferred stock earned fairly steady dividends.[1] They started with adequate fixed capital and thereafter were able to spread efficiently their overhead costs. The companies enjoyed some buying economies and probably exercised a mild bargaining power when it came to selling the tobacco. The operating capital of the corporations, like that of private owner-share-tenant and owner-operator setups, came largely from the banks.

By 1930, nine corporate plantations operated about half of the tobacco farms in the Norfolk district. Corporate tobacco farming has now virtually disappeared, however.[2] The corporation took advantage in recent years of the high farm prices to sell out, often to their tenants. The high war-time corporate income tax seemed to make it the best arrangement for the individual to occupy and operate his own tobacco farm. Share-tenancy in general seems to be on the decline in the New Belt.

Credit.—The 1941 Census data on mortgage indebtedness are by now outdated. More recent statistics are available for chattel mortgages, however. Chattel mortgages are far more numerous in the Essex-Kent area than in the Norfolk-Elgin area, but their number appears to be on the increase in both areas.[3] Although the average size of the chattel mortgages in the Old Belt area has been decreasing in post-war years, the opposite is true for the New Belt area. The liberal provision of short-term credit by the banks of both belts seems to be the explanation of why the tobacco farmers have not made much use of the Federal Farm Improvement Loans Act for short and intermediate credit purposes. The burley farmers typically rely on bank credit to a much less extent than the New Belt farmers, but this credit is not insignificant in the Old Belt either. The average annual amount of interest paid on bank and mortgage debt combined in 1948 by 21 sample burley farms was $192. An Old Belt farmer may borrow from $500 to $5,000 from the bank, and if his financial position is sound his note is sufficient without assigning a crop (tobacco or otherwise) to the bank as security.

---

[1] See J. Coke. *"Corporate Farming in Canada", Proceedings of the Fourth International Conference of Agricultural Economists.* London, 1937. pp. 262-266.

[2] A few privately-owned companies remain.

[3] Ontario Dept. of Agriculture. *1947 and 1948 Annual Reports of the Statistics Branch.* Toronto. pp. 49 and 54.

Tobacco farm credit in the New Belt is mostly short-term and medium-long. The owner-share-tenant setups get a large part of their fixed capital from the owner. The owner-operator sometimes supplies his own fixed capital funds from the outset, but more often he borrows them from the former owner or someone else in the form of a mortgage. The flue farmer usually buys his farm on what is called a *long-term agreement.* The down payments vary, but usually lie in the 15 per cent to 30 per cent range, and the seller usually takes a mortgage on the balance at 5 per cent. The mortgage typically is drawn for ten years, but the mortgagor usually has the option of paying off any of the principal at any time. The mortgagee usually claims 25 per cent of the annual tobacco proceeds for interest and repayment of the principal. But even the interest payment often is reduced or postponed in the event of a crop failure. This mortgage policy may be designated one of *flexible quarter-crop payment.* The provision for varying the payment of interest and principal according to the success of the year's operation is important. This provision also helps to compensate for the rather short term of the mortgage. The shortness of the ten-year period has been disguised by the further fact that the New Belt industry has, with the exception of the early 1930's, been prosperous.

New Belt farmers have always relied heavily on short-term bank credit to meet operating expenses. Bank credit lubricated the rapid expansion of the New Belt. Operating expenses, wages and fertilizer in particular, are usually met on a cash basis. Some equipment is sold on a *payment when the crop is sold basis*, however, and rural general merchants will carry a trusted farmer through the harvest season.

In 1945, the principal leaf buyer canvassed the New Belt banks for co-operation in growing more tobacco, and the banks responded by lending money more freely to the farmers. From 1945-1947, inter-bank competition was so keen that sound banking principles actually were jeopardized. Since 1947, the banks have stiffened their eligibility rules, have insisted on closer co-operation from the borrower, and have increased their supervision of the borrower's spending. Some of the tobacco farm seller-mortgagees are currently in the anomalous position, now that the banks have tightened up on credit, of having to loan operating credit to their buyer-mortgagors on the security of the crops.

The maximum interest rate on bank credit was lowered from seven to six per cent in 1944 with the revision of the Canada Bank Act. Risky borrowers (share-tenants are often so considered) pay six per cent. The owner-operators who borrow on their tobacco pay 5 or 5.5 per cent. The money is usually loaned against an undertaking by the farmer to take out hail and fire insurance and lodge these policies with the bank, and to assign the proceeds of the tobacco crop to the bank when its sale has been contracted. November is the month of heaviest bank indebtedness followed by October, September and December. A rough average of the amount borrowed per farm borrowing per season is $7,000. Of course, even if a tobacco farmer has enough savings to finance his yearly operations himself, it may not pay him to do so since it means immobilizing for about six months a large capital fund which might earn more elsewhere over the year than would be paid out to the bank on borrowed credit. There are many ways for the tobacco farmers to invest extra funds other than in tobacco farming itself. The heavy capital expenditures which some New Belt farmers are making could become a source of severe financial embarrassment in the event of a recession in the industry. The embarrassment would be caused both by capital losses and by the inflexible nature of the carrying costs which are being incurred.

Insurance.—Tobacco farming in Ontario faces a large and varied number of hazards. The main hazards are frost, hail, fire, wind, drought, insects, fungus diseases, labour shortages and other employer-employee complications, and export market uncertainties. Some of these risks are formally insurable and some are not. The frost hazard is important in the New Belt, but it hardly constitutes an insurable risk, largely because of its potentially widespread incidence. Public and employer's liability insurance and life insurance are neglected features of the tobacco farm insurance picture.

The average Old Belt farm has an annual farm insurance premium bill of about $100, compared with five or six times that for the New Belt. The fire insurance portion of the New Belt premiums is usually slightly higher than the hail portion. The hail insurance rates are high mainly because so few farmers subscribe and so few farmers subscribe because they think the rates are high. An increasing number of tobacco farmers are carrying their own hail insurance. This personal insurance method has some validity providing the annual premium which is saved is actually set aside in an insurance reserve fund. This is seldom done, however, and the saving in insurance premiums is too often treated as disposable income.

Fire, unlike frost or hail, is a hazard which lends itself more readily to formal coverage by insurance. All tobacco fire insurance contracts now contain an 80 per cent Limitation of Liability clause. The rates themselves vary with the building, its type of construction, and the layout of the farm buildings as a whole. Burley crop fire insurance rates are lower than for flue because the former crop is usually air-cured. Moreover, rates in the New Belt have been rising in recent years due to the high incidence of kiln and pack barn fires.

RECENT TRENDS IN FARMING IN IRRIGATED AREAS OF ALBERTA[1]

H. K. Scott

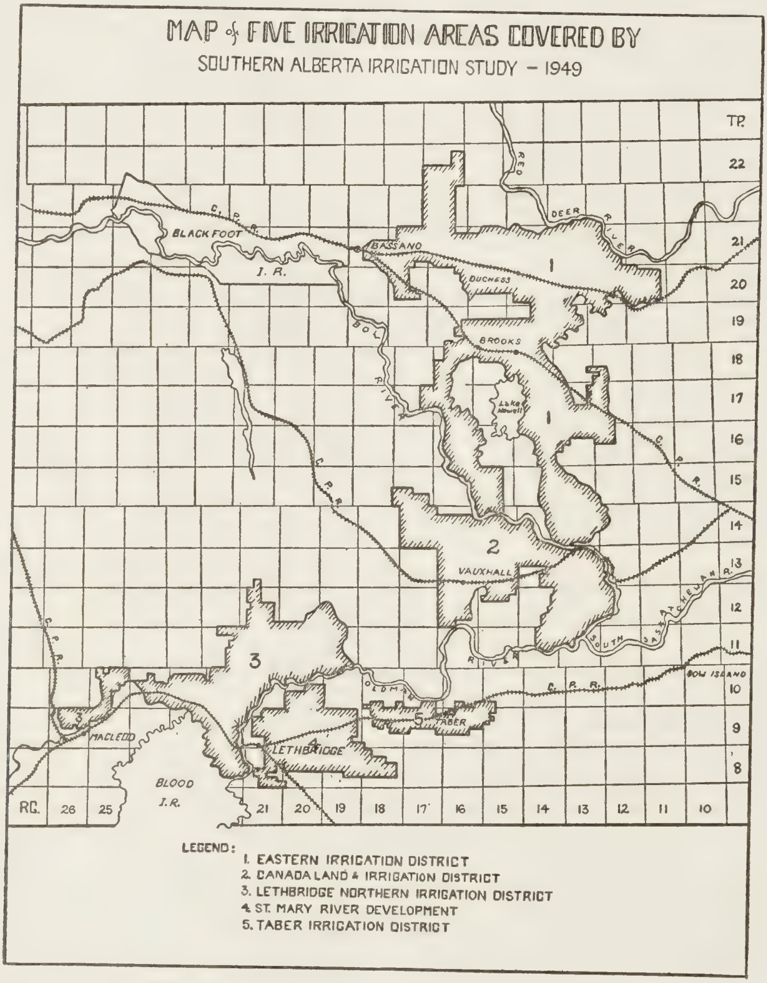
Eighty per cent of the farms in the main irrigated areas of Alberta are of the grain or livestock types or a combination of the two. This is contrary to the common opinion that specialty crops (sugar beets and canning crops) predominate on irrigated land. The importance of the so-called 'dry land' enterprises in irrigation economy is indicated in this article.

During the summer of 1949 a survey of irrigation farming was conducted by the Economics Division, Marketing Service, Federal Department of Agriculture, in co-operation with the University of Alberta and Prairie Farm Rehabilitation Administration. Five of the larger irrigation districts in Alberta were covered by the survey. Two of them—the Eastern Irrigation District and the Canada Land and Irrigation District—receive water from the Bow River. The Lethbridge Northern receives water from the Oldman River, and the other two districts—the St. Mary River Development District around Coaldale and the Taber Irrigation District—depend upon the St. Mary River for irrigation water.

Three hundred and thirty-eight farm business records were obtained from representative farms in the five irigation districts. The records were analyzed and each farm typed according to the percentage of gross income received from the different enterprises. The livestock type of farm was defined as one on which at least 40 per cent of the gross income was derived from livestock and livestock products. The crop type was defined as the farm receiving 75 per cent or more of the gross farm income from field crops. Farms conforming to neither of these definitions were included in the mixed crop-livestock type. The crop-type farms were subdivided into grain farms and specialty farms. The criterion for a specialty farm was that at least 50 per cent of the crop income must have been derived from the sale of specialty crops. Crop farms not meeting this requirement were considered grain farms.

---

[1] For other articles on this subject in *The Economic Annalist* see: "Historical Development of the Eastern Irrigation District" by L. K. Dunsmore, June, 1950; "Postwar Trends in Specialty Crops for the Irrigated Areas of Alberta" by A. J. Pyrch, and "Production and Marketing of Potatoes from the Irrigated Areas of Alberta" by C. M. Kline, August, 1949.


MAP of FIVE IRRIGATION AREAS COVERED BY
SOUTHERN ALBERTA IRRIGATION STUDY – 1949

Approximately 20 per cent of the farms in the five irrigation districts were of the livestock type, 20 per cent of the mixed crop-livestock type, 20 per cent of the specialty type and 40 per cent of the grain type (Table 1). When one accepts the criteria for typing it can readily be seen how important are the grain, the livestock and the mixed grain-livestock farms in the areas under study, since 80 per cent of the farms fell into these three categories.

In Alberta slightly more than 500,000 acres have ditch facilities for irrigation. The area studied in the 1949 survey contains about 550,000 acres of

Table 1.—Number of Farm Business Records of Each Farm Type, Southern Alberta Irrigation Study, 1949.

—	Type of Farm				
	Grain	Livestock	Mixed Crop Livestock	Specialty	All Types
Number of Records	131	74	66	67	338
Per Cent of Total Sample	38·8	21·9	19·5	19·8	100

cropland of which about 400,000 acres were classed as irrigable. The sample showed a little more than 50 per cent of the cropland sown to grain crops including flax, and slightly less than 10 per cent to specialty crops; about 25 per cent was summerfallowed. The remaining crop acreage—less than 15 per cent of the total—was devoted to the production of leguminous hays and cultivated pasture. These leguminous hays, chiefly alfalfa and sweet clover, are complementary to the livestock enterprises of the irrigation areas.

Eastward from the Canadian Rockies the average annual precipitation decreases. For example, the Lethbridge area has a higher average rainfall than the Taber area farther east. As a result of this difference, land use in the five districts is not uniform. More dry cropland is the rule in the Lethbridge Northern Irrigation District and the St. Mary River Development District—the western districts—than is found in the two areas to the north and east—the Eastern Irrigation District and the Canada Land and Irrigation District. In the districts with the heavier rainfall it is the usual practice to grow specialty crops on the irrigated land and grains on both the irrigated and dry cropland. Generally speaking, in the Eastern Irrigation District and the Canada Land and Irrigation District no crops are grown without irrigation as the average precipitation is too low for dryland farming.

The main specialty crops of the E.I.D. and the Canada Land and Irrigation District are potatoes and the small seed crops, such as alfalfa and peas. Little in the way of canning crops and sugar beets are grown. This is due primarily to marketing difficulties although the climate is probably not as favourable as farther south. The heart of the specialty crop area is between Taber and Lethbridge. Canning factories and sugar refineries are found in or near these two centres. The sugar beets and the bulk of the canning crops are grown in the adjoining areas—the Taber Irrigation, the Lethbridge Northern Irrigation and St. Mary River Development Districts. Since these crops have become permanently established around their respective producers' markets, it is expected that any increase in their acreage will likely be within the present districts with very little such expansion in the Eastern Irrigation and the Canada Land and Irrigation Districts in the immediate future.

Table 2.—Average Number of Livestock per Farm in the Five Irrigation Districts, Southern Alberta Irrigation Study, 1949

Irrigation District	Average Number per Farm		
	Cattle	Sheep	Hogs
Eastern	44·3	32·3	13·2
Canada Land	22·1	44·4	12·1
Lethbridge Northern	14·8	2·5	4·4
St. Mary River Development (Coaldale)	22·0	....	12·6
Taber	15·3	....	8·4

Next in importance to grain growing in the farming economy of the irrigated areas are the livestock enterprises; twenty per cent of the surveyed farms fell into this group. Nearly all the farms, however, have some animals (Table 2). The two areas which do not raise specialty crops on a large scale, the Eastern Irrigation District and the Canada Land and Irrigation District, have a greater number of animals because more pasture is available. The other three districts are surrounded by dry cropland areas which limit the amount of land available for pasture.

Around Lethbridge considerable livestock feeding is carried on. By-products from the sugar refineries, pea vines and sugar beet tops are good livestock feed. It is a common sight to find a herd of cattle or a flock of sheep feeding on the sugar beet tops which are left in the field after beet harvest. Lethbridge also furnishes a fluid milk market which has led to the establishment of dairy enterprises around that city.

Although the size of farms has not changed much in the five irrigation districts during the past ten years there has been a large increase in gross returns as shown in Table 3. In computing gross returns, results of the 1939-40 study[1] were compared with the present study. The data for comparing grain, livestock and mixed farms were compiled from records obtained in the two studies in Eastern and Canada Land Irrigation Districts and, for specialty farms, in the Taber Irrigation District.

The proportion of gross returns in the four main types of farms did not show any significant changes except in the returns from specialty crops. The over-all picture suggests that there has been a definite trend toward increased production of specialty crops in all districts. This trend is also apparent in the acreage data. In the Eastern Irrigation and Canada Land and Irrigation Districts there has been a proportional increase in acreage sown to potatoes and the small seed crops. The other three districts have also shown an increase in their canning crops and sugar beet acreages.

Table 3.—Average Gross Returns Per Farm, by Farm Type, Southern Alberta Irrigation Studies, 1940 and 1949.

	Predominant Type of Farming							
	Grain		Specialty		Livestock		Mixed	
Crop Year	1939-40	1948-49	1939-40	1948-49	1939-40	1948-49	1939-40	1948-49
	—dollars—							
Average Gross Returns From:								
Grain	1,532	5,034	701	2,147	585	2,229	904	3,826
Specialty Crops	....	548	2,258	7,379	12	583	2	476
Other Crops	86	443	308	36	155	391	135	195
Livestock and Livestock Products	277	855	541	623	1,586	5,801	696	2,223
Other Returns	72	3	78	0	86	9	162	10
Total	1,967	6,883	3,878	10,185	2,424	9,013	1,899	6,730
	—per cent—							
Proportion of Gross Returns in:								
Grain	78	73	18	21	24	25	48	57
Specialty Crops	....	8	64	72	....	6	....	7
Livestock and Livestock Products	14	12	14	6	66	64	37	33

---

[1] Spence, C. C., Kristjanson, B. H., and Anderson, J. L. *Farming in the Irrigation Districts of Alberta.* Tech. Bul. No. 61. Ottawa, Dept. of Agriculture, 1947.

Table 4.—Average Returns to Capital and Family Labour from Main Types of Farms in Southern Alberta Irrigation Studies, 1940 and 1949.

Farm Type	Irrigation District	Returns to Capital and Family Labour for Crop Year	
		1939-40	1948-49
		—dollars—	
Livestock	Eastern and Canada Land	794	4,119
Mixed Crop-Livestock	" "	513	2,262
Grain	" "	474	2,344
Specialty Crops	Taber	1,613	3,374

A comparison of the average returns to capital and family labour[1] for the two studies is shown in Table 4. The areas considered representative for Table 3 are used again in Table 4. The proportional increase in the returns shown in the 1948-49 figures varies with type. The specialty type has a lower percentage increase than have the other three types. This is attributed to the prices of the products sold by the specialty farms showing a lower proportionate increase than did the prices of the products of the other three types.

As irrigation in Alberta is extended the trend will likely be toward more livestock and grain farms because of the restricted market for specialty crops. The specialty crop market is generally limited to the Prairie Provinces and therefore is dependent upon the population of this area. The amount of livestock raised in the new areas would depend to a large extent on the amount of pasture available within or near the newly developed irrigation districts.

Both non-resident investments in Canada and Canadian direct investments in other countries increased in 1949 to reach new high levels in Canadian dollar values. Total value of non-resident investments, including Newfoundland, at the end of 1949 is estimated at $7,977 million (Canadian) compared with $7,513 million in 1948, not including Newfoundland, $7,092 million in 1945 and $6,913 million in 1939. Canadian direct investments outside Canada amounted to an estimated $893 million in 1949 as compared to $720 million in 1945 and $671 million in 1939.

The recent growth in total non-resident investments in Canada has occurred principally in United States capital. All United States investments rose to an estimated $5,890 million in 1949 from $5,588 million in 1948, $4,990 million in 1945, and $4,151 million in 1939. Holdings in the United Kingdom also increased in 1949 to an estimated $1,752 million from $1,593 million in 1948, but at last year's figure were only slightly above the value of $1,750 million for 1945. In 1939 they amounted to $2,476 million and in 1930 were above the 1949 total at $2,766 million. Investments held in other countries also advanced in 1949 to $335 million from $332 million the previous year, but were down from $352 million in 1945.

On the basis of reports received by the Department of Labour, industrial expansion in Canadian manufacturing industry during the third quarter of 1950 has so far resulted in more than 1,500 new job openings. In 1950 to date, 5,800 new jobs have been created for Canadian workers, while more than 1,600 new jobs are anticipated for the fourth quarter of this year. With more than four months remaining in 1950, the total of new job openings because of industrial expansion has already almost equalled the figure for the whole of 1949.

---

[1] Return to Capital and Family Labour is the farm income available for family living expenses, capital expenditure and savings, after an allowance has been made for all current cash expenses and depreciation.

CURRENT FEDERAL AGRICULTURAL PROGRAMS AFFECTING PRICES OF FARM PRODUCTS[a]

Legislative Authority	Commodity	Minimum Price		Policy
		To Producer	In Effect	
Agricultural Prices Support Act, 1944 (S.C.[b] 1944-45, Chap. 29; 1947-48, c. 32; 1950, Bill 17, assented to March 30).	Butter	53 cents per lb. first grade creamery, basis Montreal.	May 1, 1950—April 30, 1951.	The Agricultural Prices Support Board purchases butter from the producer and stores it until needed in the market to supplement current production. Selling price will not be less than the current support price plus storage charges during the present support period.
	Eggs	38 cents per doz. "A" large. 36 cents per doz. "A" medium.	End of the storage period late in 1950.	At the end of the storage period the Support Board will buy all eggs then unsold which had been stored to its specifications between January and early June 1950. In addition to the minimum price the Board will pay up to five cents per dozen to cover storage costs.
Agricultural Products Act, 1947 (S.C. 1947, c. 10; 1947-48, c. 1; 1949, c. 8; 1950, Bill 16, assented to March 30).	Bacon	$32.50 per 100 lb. "A" Wiltshire sides delivered Can. Seaboard (to a total of 60 million lbs.)	Jan. 1, 1950—purchase of 60 million lbs. completed.	The Meat Board, which operates under this Act, has been buying bacon at $32.50 per 100 lbs. to fill the United Kingdom contract for about 60 million pounds. The price to the U.K. is $29.00 per 100 lbs. delivered Can. seaboard. The difference of $3.50 per 100 lbs. is met from Canadian Government funds and will be discontinued after the purchase of the 60 million lbs. has been completed.
	Cheese	28 cents per lb. first grade f.a.s. Can. seaboard.	Jan. 1, 1950—Dec. 31, 1950.	The Dairy Products Board, which operates under this Act, has been buying cheese at 28 cents per lb. to fill the United Kingdom contract for between 70 and 84·7 million lbs. The price to the U.K. is 25 cents per lb. f.a.s. Can. seaboard. The difference of 3 cents per lb. is met from Canadian Government funds. Cheddar cheese produced in Ontario and Quebec on and after May 1, 1950 has been requisitioned to meet the 1950 contract requirements.

Canadian Wheat Board Act, 1935..... (S.C. 1935, c. 53; 1936, c. 12, S.S. 4 and 5; 1939, c. 39; 1940, c. 25; 1942-43, c. 4; 1947, c. 15; 1947-48, c. 4; 1950, Bill 252, assented to June 30).	Wheat.............	**Initial** price $1.40 per bu. basis No. 1 Nor. in store Ft. William—Port Arthur or Vancouver.[c]	Aug. 1, 1950—July 31, 1951.	Currently the Board is responsible for the marketing of wheat, oats and barley produced in designated areas such as the Prairie Provinces and some sections of B.C. and Ont. Until July 31, 1953 interprovincial and export trading in wheat, wheat products, oats and barley are to be carried on solely by the Board or subject to regulations made by the Governor in Council. For the years 1950-53 there are to be single crop-year pool periods for wheat. There is to be a 1950-51 pool for oats and barley. The domestic prices for wheat for the 1950-51 crop will be the same prices for which the Board is selling wheat for export under the terms of the International Wheat Agreement: ceiling price $1.98 per bu. and floor price $1.54 per bu. for No. 1 Nor. in store at Lakehead or Vancouver, basis Canadian funds. Prices for export wheat sold outside the International Wheat Agreement will be those determined by market conditions at the time of sale. Farmers will receive initial prices for wheat, oats and barley and a producer's certificate showing quantity and grade delivered and which entitles them to share in any surpluses accumulated by the Board in the sale of the respective grains during the pool period.
	Oats................	**Initial** price 65 cents per bu. for No. 2 C.W. in store Ft. William — Port Arthur.[c]	Aug. 1, 1950—July 31, 1951.	
	Barley.............	**Initial** price 93 cents per. bu. for No. 3 C.W. 6-Row in store Ft. William — Port Arthur.[c]	Aug. 1, 1950—July 31, 1951.	
Agricultural Products Co-operative Marketing Act, 1939................. (S.C. 1939, c. 28; 1940, c. 19).	Forage Crop Seeds 31-33%	**Initial** payment: (as a percentage of previous 3 years' average price to producers or wholesale prices).	1949-50 agreement.	The Government assists in financing initial payments by the co-operative to primary producers on delivery of products for sale. Initial payments are subject to negotiation but may not exceed 80% of the average returns for like grades and qualities during the previous 3 years. The procedure is for the government to guarantee the banks against loss in advancing funds to organizations marketing co-operatively.
	Honey..........35%		1949-50 agreement.	
	Mink pelts......18%		1949-50 agreement.	
	Fox pelts........50%		1949-50 agreement.	

---

[a] Prepared by Marjorie R. Cameron, August 15, 1950.

[b] Statutes of Canada.

[c] The final payments on the 1949-50 oats and barley pool commenced October 16, 1950. The final payment will be on a grade basis, and will average about 57 cents per bushel for malting barley, 44·5 to 47 cents per bushel for feeding barley, and 19·5 cents per bushel for oats. The combined distribution from the 1949-50 oats and barley pools will be about $42,500,000.

REVIEW OF LITERATURE

Economic Survey of Europe in 1949. United Nations, Dept. of Economic Affairs. Prepared by the Research and Planning Division, Economic Commission for Europe. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto). June, 1950. pp. xv + 299.

Economic Survey of Europe in 1949 is the third annual survey of the European economy to be undertaken by the Secretariat of the Economic Commission for Europe. It follows the *Survey of the Economic Situation and Prospects of Europe* and the *Economic Survey of Europe in 1948* which were published in 1948 and 1949 respectively.

The *Survey* provides a record of continued progress in production, investment and trade in most European countries during the year 1949. In the last chapter devoted to the analysis of past trends and future potentialities for economic development the conclusion is reached that European industrial production could be increased by about 50 per cent during the next ten years provided that employment and investment are maintained at high levels. If development is carried on at such a rate it is suggested that many problems which now appear intractable would become far easier to solve and a broader basis would be established for the whole process of economic development in later years.

While the *Survey* thus contains a note of moderate optimism with regard to the possibilities of continued economic growth, it is mainly concerned with the immediate threats to the expansion of production and trade. The gravest menace to continued economic stability and growth, particularly in Western Europe, appears to be the unresolved problem of overseas payments. The analysis indicates that the major development in this field during the past year—the devaluation of Sterling and of many other European and overseas currencies—had become a necessary corrective to price inequalities but it concludes that devaluation is most unlikely to provide a solution to the central problem of the dollar shortage.

The scope of the report is indicated by the chapter headings: *Trends of Production; The Allocation of Resources; Internal Stability and Employment; Intra-European Trade and Payments; The Balance of Payments and Overseas Trade; Prices, Devaluation and the Terms of Trade; The Continuing Problem of International Equilibrium; The Prospects of Expansion in European Production.*

Catalogue of Economic and Social Projects 1950. United Nations. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto). June, 1950. pp. xx + 515.

The Catalogue of Economic and Social Projects 1950 is the second in a series to be published by the United Nations secretariat at the request of the Economic and Social Council. It covers the period January 1949 to January 1950, and includes continuing projects carried over from previous years, as well as additional projects undertaken, planned or authorized during 1949. It therefore shows the work in hand in 1949 and, in so far as possible, the projects carried over to or to be initiated during 1950.

VAN DE WIEL, F. and LE MAIR. *De Practijk van de nieuwe Landbouwpolotick.* Assen, near Groningen, Holland, Van Gorcum & Co. 1950. pp. 50.

This Dutch publication illustrates the functioning of the new agricultural policy in the Netherlands. The book of 50 pages is the first number of a research series as projected by the Agricultural Institute for Economics at The Hague, Holland. This is the second and substantially revised edition fresh off the press.

Observers of agricultural market and price policies and their manner of implementation under a controlled system will find in this publication a compact and concise presentation of Dutch agricultural policy as adopted in 1948 and how it is applied in practice.

The survey falls into four chapters. The first deals with targets and means to attain the targets, outlining the general effects and the interrelation of the two. A passing reference provides a glimpse of the legal basis on which the new policy rests and points out all the authorities, in order of priority, involved in carrying out the regulations.

The subsequent parts describe the intricacies of control machinery and hierarchy as applied to field crops, garden produce and livestock production.

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS

FRANK SHEFRIN, Editor

DECEMBER 1950 **Vol. XX, No. 6**

CONTENTS

Page

The Economic Situation 123

Ontario Tobacco Farm Organization and Selected New Belt Production Problems .... *William E. Haviland* 127

Seasonal Variation in the Prices of Poultry Meat in the Montreal Market .... *G. Woollam and G. Murray* 134

The Farm Business in the Gilbert Plains and Sifton Areas of Manitoba, 1949 .... *J. G. Mackenzie and T. O. Riecken* 137

Review of Literature 142

MARKETING SERVICE, ECONOMICS DIVISION

J. F. BOOTH, Associate Director

Published by Authority of the Right Honourable James G. Gardiner,
Minister of Agriculture

ANNUAL AND MONTHLY INDEX NUMBERS (a)

Wholesale Prices, Farm Prices and Living Cost Indexes

Year	Wholesale Prices 1935-39=100			Farm Prices of Agricultural Products 1935-39=100	Commodities and Services used by Farmers 1935-39=100		Cost of Living 1935-39=100	
	Farm Products (b)	Field Products (c)	Animal Products (d)	(e)	Equipment and Materials (f)	Eleven Factor Index (g)	Farm Living Costs (h)	Urban Living Costs (i)
1913	...	...	...	...	85·4	...	80·1	79·1
1914	...	...	...	...	90·2	85·3	82·3	79·7
1915	...	...	...	...	96·9	91·6	86·5	80·7
1916	...	...	...	...	101·7	100·5	93·7	87·0
1917	...	...	...	...	140·7	140·5	111·5	102·4
1918	...	...	...	...	164·1	160·2	131·1	115·6
1919	...	...	...	...	169·1	167·9	143·0	126·5
1920	...	...	...	...	190·1	186·5	171·3	145·4
1921	...	...	...	...	147·4	152·5	139·9	129·9
1922	...	...	...	...	124·6	134·1	127·9	120·4
1923	...	...	...	...	118·3	130·6	128·3	120·7
1924	...	...	...	...	122·3	131·9	125·5	118·8
1925	...	...	...	...	123·2	131·8	123·9	119·8
1926	144·4	158·5	130·2	...	119·9	130·6	121·1	121·8
1927	138·6	149·4	127·8	...	119·9	131·2	119·8	119·9
1928	136·3	134·3	138·2	...	118·3	129·3	118·5	120·5
1929	140·8	137·2	144·4	...	117·6	127·9	117·3	121·7
1930	119·5	105·8	133·3	...	150·6	117·0	113·7	120·8
1931	78·9	65·0	92·7	...	92·2	100·9	103·9	109·1
1932	65·5	60·4	70·5	...	89·3	93·3	97·8	99·0
1933	69·3	69·3	69·2	...	88·8	89·8	95·8	94·4
1934	83·5	80·5	86·5	...	96·8	95·5	97·9	95·6
1935	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	165·3	160·4	170·2	184·2	125·9	152·1	123·2	119·5
1946	177·0	172·9	181·2	200·8	128·0	157·0	127·1	123·6
1947	189·7	179·1	200·2	212·5	139·5	170·4	138·3	135·5
1948	229·6	195·6	263·7	252·4	173·1	196·9	162·8	155·0
1949	(j) 225·2	(j) 184·9	(j) 265·4	251·8	180·3	201·8	173·2	160·8
1949								
Oct	219·7	181·9	257·6	248·7	...	...	...	162·2
Nov	222·0	180·6	259·3	247·7	...	...	...	161·7
Dec	219·9	179·8	259·9	248·3	...	...	...	161·5
1950								
Jan	217·2	180·9	253·5	241·5	184·4	196·3	175·3	161·0
Feb	219·9	180·2	259·6	245·7	...	...	...	161·6
Mar	224·8	183·6	266·0	249·0	...	...	...	163·7
April	226·8	185·6	268·0	251·8	191·0	209·7	176·7	164·0
May	229·6	186·3	272·8	252·5	...	...	...	164·0
June	238·8	188·6	289·1	261·0	...	...	...	165·4
July	242·2	188·0	296·3	265·0	...	...	...	167·5
Aug	229·3	160·2	298·5	251·8	194·3	215·4	180·7	168·5
Sept	227·9	158·6	297·1	246·7	...	...	...	169·8
Oct	221·6	156·2	286·9	...	...	...	...	170·7

(a) **Revised each issue.**

(b) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo). Ottawa, Monthly Wholesale prices of products of Canadian farms.

(c) Ibid (b). Wholesale prices of grains, hay, tobacco and potatoes.

(d) Ibid (b). Wholesale prices of animals and animal products.

(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo). Ottawa, Monthly.

(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo). Ottawa, Jan., Apr., and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.

(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.

(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.

(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

(j) Preliminary.

THE ECONOMIC SITUATION, 1950

Year-End Review.[1]—The value of all goods and services produced in Canada, or the Gross National Product in 1950, will exceed $17 billion, between seven and eight per cent above 1949. The rate of activity has risen during the year, in the first half in response to the gathering boom in the United States, and later in response to international developments and the large new demands that these impose on western economies already operating at a high level. This heightening activity is accompanied by mounting prices. Commodity wholesale price levels at the beginning of 1950 were slightly lower than those of a year ago. However, by the third quarter of 1950 levels of both wholesale and retail prices were at all-time highs, appreciably above preceding 1948 peaks for all major commodity groups with the exception of farm products. About half of the estimated increased value of G.N.P. in 1950 is thus due to these higher average prices than in 1949 and half to increased real output.

While the value of output has more than tripled since 1939, physical output this year will likely exceed that of 1939 by about 75 per cent. The volume of farm production has increased by 10 per cent in the same period. There is thus a significant growth in the production of other industries relative to that of agriculture. The number employed, another physical measure of activity, has increased by about 25 per cent during this period. Unemployment, in spite of more than a decade's growth in the labour force, is only a fraction of what it was before the war.

A large part of this year's increase in output is directed toward meeting the growing demands of governments, and the Federal Government's accelerating defence program in particular. Business investment in plant, equipment and housing, in spite of some hesitation early in the year, will be moderately higher in real terms. The physical volume of consumer expenditure is also somewhat higher, as is the volume of exports. Although high import values are being registered from month to month, in physical terms imports are substantially unchanged from those in 1949.

The general readjustment of exchange rates in September 1949, in which the pound sterling was devalued by 30·5 per cent in terms of U.S. dollars and the Canadian dollar by 9·09 per cent, might have been expected to have had a mildly deflationary influence on commodity prices in North America. However, this was offset by an expansion of American demand which has resulted in a continuing rise in price, accentuated by the invasion of Korea.

During 1950 the world *dollar gap* has been sharply reduced and many overseas countries have been able to increase their gold and dollar reserves. Canada's gold and U.S. dollar reserves increased by $138 million in the first half of 1950, and by $530 million in the third quarter. At that time it became apparent that a considerable capital inflow was taking place in the expectation that there would be an early appreciation of the Canadian dollar from a discount of 9·09 per cent to parity with the U.S. dollar. Having in mind the speculative nature of the inflow and the difficulty of offsetting its inflationary consequences the Government took steps to discourage this movement by announcing on September 30 that the exchange rate would be determined by market forces with no fixed parity in relation to the U.S. dollars.

The changing pattern and level of activity in the Canadian economy in 1949 and 1950 can perhaps best be interpreted as reflecting the changing character of external demands on Canadian resources and Canadian production. During 1949 the sterling area continued to restrict its purchasing in dollar areas, intensifying its efforts after the exchange crisis in August of that year. Accordingly Canadian exports to the United Kingdom and the rest of the sterling area have shown a virtually continuous decline and by the end of August were down 37 per cent from the same eight months' period in 1949. Meanwhile the recession which set in in the United States late in 1948, by mid-1949 was having a perceptible effect on Canadian exports to that country. Export prices were easing and there was some decline in production and employment in a number of important export industries. But by mid-1950 recovery in the United States had developed into boom proportions, characteristically bringing about an up-turn in prices and sharply enhanced demands on foreign sources of supply. Although merchandise exports to all countries for the year as a whole will be moderately higher, the shift between Canada's principal markets is indeed remarkable.

---

[1] Based on a review of the domestic situation appearing in the October, 1950 issue of The Current Review of Agricultural Conditions in Canada.

The high level of activity in Canada has maintained the value of imports at a high level and the progressive removal of import restrictions has also contributed to the same result. The gradual recovery of production in Europe and the improved competitive position of the European seller in the Canadian market following the re-alignment of currencies in September, 1949, have fostered some shift toward European sources of supply. Thus whereas merchandise imports from Western Europe and the United Kingdom at the end of seven months of 1950 were up 20 per cent, imports from the United States were up only five per cent. Since the United States is Canada's major source of supply for imports, the devaluation of the Canadian dollar in September 1949 gave a distinct lift to import prices so that the physical volume of imports between 1949 and 1950 is substantially unchanged despite the rise in import values.

This stability in imports in the face of rising domestic production and consumption reflects a combination of factors. Relative availabilities and relative prices, particularly after the September 1949 revaluation of currencies, favoured some shift towards procurement in domestic as opposed to United States sources. In addition the gradual broadening of Canada's industrial base continues, resulting in the production domestically of goods hitherto imported.

Although the shift in the direction of import trade has not been as spectacular as the shift in the direction of export trade, it has helped to bring about a near balance in the accounts with Canada's two principal trading partners—the United States and the British Commonwealth. The sharp reduction in sterling surplus and in U.S. dollar deficit is perhaps the most notable development this year.

New funds available to nearly 14 million consumers for spending in Canada in 1950, even taking into account the refund of the wartime forced savings in 1949, will apparently be higher this year than last by three to four per cent. The sum of all personal incomes, including for example net income of agriculture and other unincorporated business, interest and dividends received by persons, as well as the total of all labour incomes, will probably exceed $13 billion. This is the amount that is used to pay personal direct taxes, to save or to spend. Rising personal income underlies the evident strength of consumer markets during the course of the year. Nevertheless, consumer spending behaviour was not immune from the slight hesitation and uncertainty that existed in the economy generally in the early months of the year. There was some firming in consumer markets in the early summer and with the outbreak of war in Korea the fear of shortages and expectation of higher prices has acted as a stimulant to consumer spending, although there is little evidence to suggest widespread *scare* buying.

For the year as a whole, consumer expenditure is expected to be up from 1949 at least five per cent, the major part of which would represent higher consumer prices.

Agriculture.—Output of farm products in the 1946-50 period is somewhat below the wartime high level but well above the immediate pre-war total. This lower output has been due mainly to weather conditions. The 1950 output will likely exceed the 1949 total by nearly 15 per cent, the gain being due to increased yields of grains. Total output would have been higher but the size of the wheat crop was substantially reduced by early frost. In addition much of the crop will be downgraded because of frost damage.

Value of exports of Canadian farm products in 1950 will be lower than the 1949 total of $967·8 million. It would still be higher than the value of goods exported in 1939 but below the high of $1·1 billion in 1945. The most marked increase in exports has been the movement of beef cattle, and beef and veal to the United States. But there has been a sharp drop in egg exports, mainly due to the loss of the United Kingdom market.

There were only three export contracts with the United Kingdom—wheat, cheese and bacon. The four-year wheat agreement ended on July 31, 1950. The other two contracts continue until December 31, 1950.

On the whole prices received by farmers in 1950 declined slightly from the 1949 level, although for individual commodities the 1950 prices showed a greater degree of variability than those in the previous year.

Prices paid by farmers for goods and services used for production and for living have continued their upward movement. Prices paid by farmers have not risen as rapidly as prices received since 1940 but their behaviour has also been less erratic. The composite price index number of goods, services and cost of living in 1950 is above that for 1949 with the greatest increase in the price of equipment and materials. Lesser increases occurred in wages paid and the cost of living.

Cash and net farm income in 1950 will be below the 1948 and 1949 totals. However they will be substantially above that of any prewar and war year. Operating expenses are estimated to be higher in 1950 than in 1949 as a result of a continuing increase in the price of goods and services used by farmers. As a result of higher costs and a slightly lower price level net farm income will be down somewhat.

Economic Controls.—The inflationary possibilities inherent in the new situation arising out of the Korean war are acknowledged by the government in new legislation passed at the emergency session of Parliament in September. There is a difference between the current situation and that of 1939. Canadian industry then was not operating at capacity. In 1950 Canadian industry is operating at close to capacity so that the impact of the increased defence program, although small by comparison, will not be without some effect, especially on the critical defence materials. The Essential Materials (Defence) Act gives the government the power to allocate, and to control the prices of, essential materials and services. It is stand-by power to be invoked by order-in-council if and when voluntary allocation is not practicable or satisfactory or if exorbitant prices appear to be interfering with the desired distribution of essential materials. The present emergency is not considered to warrant comprehensive controls but only such powers as will ensure that particular scarcities do not impede the defence program.

In discussing the likely inflationary impact of an expanded defence program and measures to counter this pressure, the Governor of the Bank of Canada, in an address entitled "Expectations and Events" given in Toronto on November 9, 1950, stated,

> Specific credit controls and a strong monetary policy are appropriate and necessary weapons of self-defence for the community against such actions. But the fundamental policy clearly must be the fiscal one of reducing spendable incomes, by increased taxes, to the extent that the available supply of goods is being reduced by the demands of the defence programme. And so long as re-armament expenditures go on increasing, I believe that Government revenues should anticipate the future level of requirements rather than merely try to keep pace with current requirements. Anticipations of future developments might induce larger current spending by various groups, if not offset by larger current discouragement of such spending.

Consumer Credit Regulations.—Instalment sales became subject to regulation on November 1, 1950. The Government has decided to impose a moderate degree of restraint on the use of consumer credit as one means of helping to check inflationary pressures arising from mounting defence expenditures. The restrictions are intended to result in some change in existing consumer credit practices, but they are less severe than those which were imposed during wartime. They will be varied as required by changing circumstances.

The new Consumer Credit Regulations are imposed under The Consumer Credit (Temporary Provisions) Act passed at the last session of Parliament.

All goods are covered by the Regulations with certain exceptions. Some of the more important exceptions are real estate, stocks, bonds, securities, goods for professional or business use, buses, trucks, implements and equipment used exclusively in farming and fishing, and building materials.

In order to provide for equality of treatment and to avoid circumvention of the restrictions on instalment sales, similar terms are applied to loans made by banks and other lending agencies for the purchase of goods. For example, a loan for the purchase of an automobile cannot exceed 66⅔ per cent of the cash price and must be repaid in regular instalments within 18 months.

For automobiles, motorcycles and other motor vehicles, the purchaser is required to pay 33⅓ per cent of the cash price at time of delivery. The value of trade-in may be counted as part of the down payment with respect to motor vehicle purchases.

When other goods are purchased on the instalment plan, the minimum down payment is 20 per cent, but not less than $5.00. If a trade-in is involved, the value of the trade-in is first to be deducted from the cash price and the 20 per cent minimum down payment applied to the remainder.

The sale contract for all classes of goods must specify full payment in regular instalments in not more than 18 months. In no case is the instalment payment to be less than $5.00 per month or $1.25 per week. Special provisions are included to enable the terms of payment to be varied to meet the circumstances of farmers, fishermen, and others whose income is subject to seasonal fluctuation.

Current Economic Developments.—The cost-of-living, as reported by the Dominion Bureau of Statistics, rose to a new high. The index for October 1, 1950 was 170·7 (1935-39=100), nearly six per cent gain since January 1, 1950.

Prices on the whole also moved upward. There was a further increase in the Dominion Bureau of Statistics general wholesale price index to 173·6 in September from 168·5 in August, and 155·4 in September last year. At the beginning of this year the index was 157·1.

The index number of wholesale farm product prices advanced to 142·7 from 141·9 in August, but was down from last year's September figure of 146·3.

General economic activity is being maintained at a high rate. The number of dwellings on which starts were made in July 1950 was 10,245 as compared with 9,086 in the corresponding month last year, raising the total for the seven months ending July 1950 to 52,394 from 49,285 in the like 1949 period. Completions in July rose to 6,853 from 6,588 a year earlier, but were down in the seven months to 42,821 from 46,326.

Department store sales in Canada in September, excluding Newfoundland, totalled $78,312,000, an increase of three per cent over last year's September figure of $76,146,000. During the first nine months of the year, sales advanced to $572,127,000 from $565,427,000 in the similar period of 1949, or by one per cent. Factory shipments of Canadian-made motor vehicles during the first nine months of this year reached a total of 294,203 units, exceeding the aggregate for the full year 1949 by 3,569 units, and rising 36 per cent over last year's nine-month total of 216,867 units.

Industrial employment in Canada continued to move to higher levels at the beginning of September. The advance index number of employment, on the base 1926=100, stood at 206·0 as compared with 204·4 at August 1, and 202·1 at September 1 last year. Average weekly earnings fell from $45.26 at August 1 to $44.26 at September 1, but rose from the September 1, 1949 figure of $43.27.

Employment in manufacturing showed considerable improvement, with increases in the vegetable food, textile, metal-using and many other divisions of the industry. The preliminary index of factory employment was the highest since April 1, 1945. Fairly large gains were reported in logging, and there were slight increases in several other groups. On the other hand, many workers in certain departments of the railways, laid off as a result of the dispute, had not been reinstated by the date of the latest survey.

The total of salaries, wages and supplementary labour income paid in all industrial groups decreased 0·7 per cent to $686 million in August, 1950, but considerably above the August 1949 total of $658 million. This is the first time that a decrease has occurred between July and August since the monthly series was instituted in 1946. The total labour income for the first eight months of 1950 was $5,239 million compared with $5,002 million in the same period of 1949.

With the number of paid workers in agriculture near its seasonal peak in August, and with improved employment conditions in other primary industries, the August labour income in "Agriculture, Forestry, Fishing, Trapping, Mining" rose $3 million to a 1950 peak of $55 million. The "Manufacturing" and "Finance, Services (Including Government)" groups, as well as supplementary income, maintained their July levels, while "Construction" continued its gradual increase to an all-time high of $56 million.

The only industrial group to decline was "Utilities, Transportation, Communication, Storage, Trade": in July this group earned $182 million in salaries and wages against $172 million in August. This decrease reflected the effect of a strike by non-operating groups of railroad employees from August 22 to 30, inclusive.

ONTARIO TOBACCO FARM ORGANIZATION AND SELECTED NEW BELT PRODUCTION PROBLEMS[1]

WILLIAM E. HAVILAND

Tobacco Farming Types.—The typical flue-cured tobacco farmer in the New Belt of Ontario practices a tobacco-rye rotation or what is virtually a single crop system of farming. There is some diversification, however, on isolated patches of heavier soils located within the New Belt as well as on the outside margins of the New Belt.[2] The main New Belt area of Norfolk-Elgin-Oxford-Brant is pretty well surrounded by a dairy combination type of farming. In the Leamington-Kingsville-Harrow area of the Old Belt flue-cured tobacco production is part of the diversification program. As might be expected, the degree of specialization in New Belt farming is correlated positively with the size of the tobacco acreage. The latter in turn is correlated positively with the amount of suitable sandy soil available on the farm for tobacco. Upper limits to the size of the farming units are set mainly by difficulties of management and by shortages of capital. The modal average post-war flue farm tobacco acreage is 27 acres, and most of the farms fall in the 15-38 acre range.

The typical burley tobacco farm in the Old Belt is diversified with two or more cash field crops or with cash field crops and livestock combined. There is some combination of burley tobacco with both cash field and garden crops in the Harrow-Leamington area. Many of the burley farmers practice four- or five-year rotation with burley following one or two years of grasses or legumes. The modal average burley tobacco acreage per farm is in the ·1-2·0 acre range.

New Belt Tobacco Farm Organization.—The post-war normal organization of a fairly typical New Belt tobacco farm (Farm F) is presented here for illustrative purposes. The land on Farm F is rolling Plainfield sand except for one fairly flat sandy loam field. The basic annual tobacco acreage allotted to this farm by the Flue-Cured Tobacco Marketing Association of Ontario is 35 acres.

Normal Organization and Inventory of New Belt Farm F

	Acres
Tobacco	30
Rye	30
Hay	12
Permanent pasture	3
Woods	8
Reforestation	9
Farmstead, etc.	5
Waste and unused tobacco land	53
Total	150

	Estimated Market Value 1949
Land	$20,190
Buildings	14,780
Equipment	5,280
Total	$40,250

Buildings: 6 kilns, 2 greenhouses, pack barn with accessories, barn, garage, tower tank, chicken coop and house.

Equipment: Medium (2-plough) tractor with accessories, riding cultivator with hoeing attachment, 2 scufflers, drag harrow, culti-packer, combination tobacco planter and fertilizer drill, 2 hand planters, stationary water tank, water barrels, sprayer, 5 boats, stalk cutter, wagon on rubber, manure spreader, mower, dump rake, hay fork, ½-ton truck, car, and grain drill (shared).

Two rotations are practised on Farm F. The major one is the traditional two-year tobacco-rye rotation on the Plainfield sand, and the minor one is an indifferently-managed oats-hay (red clover)-hay rotation on the 12-acre sandy loam field. Part of the oats and hay is fed to a team of horses which, in this case, is hired for the six-week tobacco harvest. Farm F is not a family-type farm, and so Farmer F has to hire all of his help most of which is seasonal. Two men are hired for most of the year, but they are paid by the day and according to the going seasonal wage. The operating statement for a normal post-war year on Farm F is presented here for illustrative purposes.

---

[1] The first article of this series appeared in *The Economic Annalist*, October, 1950.

[2] On diversified flue farms, if the tobacco enterprise is small it is usually managed along with the other crops by the operator, but if the tobacco enterprise is large it is usually handled separately from the other farm crops and enterprises by a share-grower.

Table 1.—Operating Statement for a Normal Post-War Year on New Belt Farm F

RECEIPTS:				
Tobacco—1,130 lbs. x 30 acs. x 39c	$13,221			
—tying and grading 33,900 lbs. x 1.75c	593			
			$13,814	
Rye—174 bus. x $1.10			191	
Hay—13 tons x $13.00			169	
Miscellaneous—gas rebate			50	
				$14,224
EXPENSES:				
Reserve for depreciation—buildings	565			
—machinery and equipment	641			
			1,206	
Expenditures:				
Labour: planting—3 men x $5 x 20 days	300			
hoeing—3 men x $5 x 14 days	211			
topping—2 men x $6 x 4 days	48			
suckering—30 acs. x $12	360			
priming—6 men x $9.50 x 18 days	1,027			
driving—2 men x $6.50 x 18 days	232			
handing—4 men x $7.50 x 18 days	540			
tying—2 men x $9.50 x 18 days	342			
curing—$84 x 6 wks. + $50	554			
stripping, grading, etc.—3 men x $5 x 72 days	1,080			
non-season work of 2 hired men—2 men x $5 x 146 days	1,460			
		$6,154		
Repairs: tractor, truck, car	362			
other equipment	163			
buildings	650			
		1,175		
Fertilizer: 16·5 tons (2–10–8) x $33.90	560			
45 tons manure x $3.50	157			
		717		
Fuel oil for curing: 195 gals. x 18 kilns x 17c		596		
Gas, oil and grease		375		
Insurance: fire—buildings	75			
crop	156			
		231		
Custom work		200		
Taxes and licenses		195		
Electricity and telephone		85		
Seed		77		
Rent of team at harvest		72		
Poisons		69		
Miscellaneous: 5,000 lath x 2c	100			
string, paper, etc.	45			
muck	38			
marketing board	27			
feed	13			
pullets	10			
		$ 233		
			$10,179	
				$11,385
NET FARM INCOME				$ 2,839

The receipts and expense items are, in the main, listed in descending order of importance. The tobacco returns dominate the receipts side of the normal budget on this specialized farm. The main function of the rye crop is to rest and rebuild the soil and not to act as another cash crop. But, when rye prices are high as in 1946-48, rye becomes a somewhat significant secondary source of income.

Labour is a very heavy item of expense.[1] Most of the labour bill (from topping through to curing) is for work done in the July-September period.

---

[1] See the section on labour in the article which appeared in the October 1950 issue of *The Economic Annalist.*

If all of the normal post-war expenses of operating this highly specialized farm are, arbitrarily, charged against the tobacco, the cost per tobacco acre on Farm F is about $379. The cost, of course, would vary considerably from farm to farm. The Farm F income of $2,839 is net of all cash outlays connected with the farm business and of a reserve for depreciation of the farm buildings and equipment.[1] This net farm income is a payment for Farmer F's own labour and management and also a return on his investment. Moreover, the household had the use of the farmhouse and the produce from the garden and a few hens. It is necessary to repeat that the operating statement presented above for illustrative purposes is for a normal post-war year on a modal-type Ontario flue-cured tobacco farm. The operating statement has to be modified, to a greater or lesser extent, to fit the special conditions of other farms or of particular years on this farm.

Old Belt Tobacco Farm Organization.—Because of the diversification in the Old Belt it is much less realistic than it is for the New Belt to speak of a modal or representative type of tobacco farm. Old Belt Farm B which is presented here for illustrative purposes is representative at least with respect to its burley acreage and its general diversification. Farm B is located on level Brookston clay.

Normal Organization and Inventory of Old Belt Farm B

		Acres
Soybeans		26
Wheat		14
Oats		11
Corn:		9
Husking	6	
Ensilage	3	
Hay (and pasture)		9
Late tomatoes		8
Tobacco		1.75
Permanent pasture		4
Farmstead, ditches, etc.		5.25
Total		88
Owned		50
Rented		38

Estimated Market Value 1949	
Land	$4,700
Buildings	3,350
Equipment	2,680
Livestock	1,370
Total	$12,100

Livestock: 2 horses, 9 dairy cows and 6 young cattle.

Buildings: Barn, silo, Corn crib, 2 brooder houses, coop, implement shed, garage and house.

Equipment: A small and a medium tractor etc., riding cultivator with hoeing attachment, scuffler, drag harrow, tobacco planter, fertilizer drill, wagon on rubber, wagon on steel, grain drill, grain binder, mower, side-delivery rake, hay loader, fork and slings, corn planter with fertilizer attachment, soybean drill, milling machine, elevator and car.

Production Facilities.—The tobacco leaf-handling operations do not lend themselves readily to mechanization because the element of judgment is so important in these operations, but the working of the land, planting etc., call for a wide range of tools, machines and the skills to use them. The combined value of the machinery and building categories of capital goods equals about 45 per cent of total farm value in both tobacco belts. Furthermore, census data show that the combined value of machinery and buildings has been increasing in both belts relative to the value of land. The rise in the value of equipment is more clear-cut than that for buildings. The increase in the number of tractors, for example, has been impressive. Since the tractor is a power unit and is usually the most expensive item of farm machinery, this increase is a fairly reliable index of the trend toward greater mechanization.

---

[1] There is no carry-over of tobacco on the farm because of the product's perishability in an unprocessed state. Furthermore, the differences between opening and closing inventories of other New Belt crops or supplies are negligible. In most cases, corresponding to a normalized farm organization, there is also a normal (i.e. stable) inventory. Farm inventory changes for these reasons have been excluded from the operating statement.

Table 2.—Operating Statement for a Normal Post-War Year on Old Belt Farm B

RECEIPTS:				
Crops: soybeans—705 bus. x $2.30		$ 1,620		
tomatoes—60 tons x $20		1,200		
tobacco—1,800 lbs. x 1·75 acs. x 26·7c	$ 842			
grading and tying—3,155 lbs. x 1·7c	54			
		896		
wheat—188 bus. x $1.45		272		
			$ 3,988	
Dairy enterprise: milk—614 cwt. x $3		1,842		
livestock, 1 beef and 2 veal		126		
			1,968	
Miscellaneous—gas rebate			40	
				$ 5,996
EXPENSES:				
Reserve for depreciation—buildings	100			
—machinery and equipment	200			
			300	
Expenditures:				
Labour:				
Tobacco—planting	11			
harvesting	15			
stripping	155			
		181		
Other—shocking: corn	14			
oats and wheat	18			
silo filling	18			
threshing	23			
picking tomatoes	500			
		573		
Rent—land, 38 acs.	525			
burley barn	41			
		566		
Custom work—combining soybeans	117			
trucking tobacco, wheat and beans	49			
shredding corn	39			
filling silo	35			
threshing wheat and oats	30			
		270		
Plants—tobacco	44			
tomato	172			
		216		
Gas, oil and grease		212		
Taxes and licenses		170		
Feed		142		
Fertilizer—tomatoes	51			
tobacco	41			
corn	29			
		121		
Seed		107		
Repairs		105		
Electricity and telephone		73		
Fuel		62		
Interest		60		
Other—veterinary	40			
twine and paper	36			
insurance	32			
poisons	25			
artificial breeding	50			
burley board fees	6			
		$ 189		
			$ 3,047	
				$ 3,347
NET FARM INCOME				$ 2,649

The tractor provides the extra power needed to spring-plough the tobacco land in the New Belt (a practice recommended in order to keep the land covered during the winter) and to haul the two-furrow ploughs and the two-row tobacco planters, cultivators and stalk-cutters which are coming into more common use. The number of cars in the New Belt also has increased considerably. An automobile of some sort is almost indispensable for the farm business during the summer months and particularly for tobacco harvesting.

The rate of technological progress has been fairly rapid in the New Belt because the industry is young and the farmers are receptive to new ideas such as the trend in general farm machinery towards more hydraulic processes. New Belt farmers are liberal spenders, and last year's profits sometimes govern their capital purchases more than other economic considerations.

The Optimum Use of Resources in Tobacco Farming.—The majority of the tobacco farmers are interested in maximizing their profits over the years. The choice among alternative tobacco farm organizations, farming practices and intensities of practice is likely to be governed, therefore, more by the effects on the sustained net farm income than by any other criterion.[1] The net farm income effect, of course, is not the exclusive criterion of choice from the points of view of the farmer or of society.

The single cash-crop system of farming is the simplest type from the viewpoint of the economic principles involved while the diversified crops-livestock system is the most complicated. The main problem of management of a specialized New Belt farm is that of combining in the most effective way the factors of production such as land, labour and capital in order best to achieve the farmer's main purpose in the business. The manager of a diversified Old Belt farm must not only combine the factors of production most effectively within each of his farm enterprises, but, in addition, he must determine the most effective combination of enterprises. The latter problem has to be solved as a whole by the farmer, and not in isolation for any single constituent enterprise such as tobacco. Certain New Belt production problems are discussed in the remainder of the article to illustrate these economic principles.

Usually the rye harvesting in the New Belt is handled best by custom combining since it conflicts seriously with the tobacco operations. Although the rye straw is most effective if disked-in right after combining without waiting for the end of the tobacco harvest, it may not pay to do so if it must be done at the expense of neglecting the tobacco.

The maintenance of a high level of organic matter in the New Belt soils is not as important as frequent replenishment of the organic matter. The experimental stations have asserted that at least a three-year rotation, properly chosen and with appropriate fertilization, is required to maintain the organic matter and control black rootrot in the unstable sandy soils of the New Belt. The stations consider a tobacco-rye-rye rotation to be very promising from the viewpoints of stabilizing and increasing farm income.[2] This official view is based on the beneficial effects of the three-year rotation on rootrot, humus, yields and gross dollar returns per acre, any or all of which, of course, do not necessarily indicate increased farming profitability. Very few farms use the three-year rotation for the sound economic reason that it usually is not profitable to do so under existing price and productivity conditions. The ratio of economic advantage currently favours tobacco specialization of a high order on the uniformly sandy New Belt farms. Furthermore, tobacco prices would have to fall considerably, relative to those of alternative New Belt crops and to farming costs, before a longer rotation would be adopted. Finally, there would be some economic inertia present due to the current capitalization on the basis of the traditional two-year rotation.

---

[1] Budgeting these alternatives is the practical procedure for adjusting production on the farm to the most profitable combination of the various inputs. For an example of the use and fruitfulness of the budgeting technique see Black, Clawson, Sayre and Wilcox, *Farm Management*. New York, 1947.

[2] See, for example, H. F. Murwin, "A Change from Pounds to Quality". *Delhi News Record*. Annual Tobacco Edition 1948. p. 2.

Consider, for example, the probable net income effects of changing to a tobacco-rye-rye rotation on modal-type Farm F. It is estimated that the normal tobacco yield would increase by about 110 lbs. per acre without any change in quality.[1] Assuming that present price relationships continue, the three-year rotation would make the following changes in Farm F receipts compared with the normal post-war picture presented in the operating statement above: tobacco —$2,018, sale of excess tobacco plants +$150, rye +$74, net change in receipts —$1,794. The rotation change would make the following changes in Farm F expenses: labour —$804, fertilizer and manure —$82, oil for curing —$99, custom work +$55, insurance —$23, rent of team —$12, poisons —$15, string, etc. —$10, net change —$990. Net farm income, therefore, would be $804 less than under the two-year rotation. If, instead, of three-year tobacco (rye)-corn(rye)-rye(rye) rotation were adopted, the net farm income would be about $639 less than with the present tobacco-rye rotation. To move to four-year rotation would be worse, from the net income standpoint. Since the total suitable tobacco land on this farm is limited to 70 acres, the cash crop take-off would be reduced drastically by changing to the longer rotations. If over ten years into the future are considered, however, tobacco yields under the alternative two- and three-year rotations might well diverge enough to make the three-year rotations preferable. Certainly, in the longer run (say 25 years) patterns of farming may shift considerably.

In the event of a fall or expected fall in the price of flue-cured leaf, the Marketing Association might decree a drastic cut in tobacco acreages. The effect of such an action might not only be to bolster sagging leaf prices, but, if sustained, to expedite the transition to three-year rotations. Unless the acreage restrictions were phenomenally successful in bolstering tobacco prices, the size of the New Belt farming units would probably increase and their number decrease. Many farmers would get pinched in this re-organization, especially those without capital reserves.

The discussion has so far been concerned with alternative major rotations on the lighter-textured tobacco soils. Except on the most highly specialized farms, however, there are some heavier as well as lighter soils. On the diversified flue farms the heavier land on which tobacco is not grown produces important cash and feed crops such as oats, wheat, corn and hay, but more often the heavy land is quite limited and is often neglected. The more heavy land there is on a New Belt farm the more reason there is, of course, to consider its economic possibilities.

The possibilities of the economic use of heavier land on the more specialized flue farms are rather limited due to the small amount of such land in most cases and due to tenure and other complications in some cases. The typical flue farm has need for a limited amount of pasture, a need which is more or less effectively filled by leaving the heavy land in sod. Unless the amount of heavy land available is considerable, the net income effects of utilizing it will not be large compared with the returns from the tobacco enterprise. For this reason, it is very difficult to diversify a flue farm which is not owner-operated at the outset or which cannot be owner-operated. If the heavy land is appreciable in amount, diversification can even out to some extent the farm labour requirements over the year, spread financial risks and improve farming practices. The demands of tobacco farming on management are quite heavy, however, and it may pay the owner-operator to handle only the non-tobacco enterprises himself and get a share-grower to manage the tobacco enterprises.

---

[1] Quantitative data on this matter are scanty.

In many cases where the heavy land is rather limited, its economic fitness for crop diversification is enhanced by introducing a winter beef-fattening and hog-finishing enterprise. A livestock enterprise on a flue farm either has to compensate for the income lost by an accompanying shift to a major rotation longer than the two-year tobacco-rye one and including feed crops, or else it has to fit into the minor rotation on any heavier land by producing the feed on that land leaving the major rotation intact. Such a livestock enterprise has some distinct economic advantages. It permits a considerable reduction in the manure bill. It comes almost exclusively at a relatively slack season in tobacco operation. It enables the fuller use of the heavier land—indeed the size of the livestock enterprise would be limited in most cases by the amount of heavier land available to grow feed. Although in many cases livestock enterprises on this limited scale would not require much additional labour, such enterprises undoubtedly would fit best into the family-type flue farms.

Commercial fertilizer is an important factor in New Belt farming. The typical application is about 1,100 lbs. of 2-12-10 per acre. Apparently a heavier fertilizer application than this is not necessary in most cases to obtain good yields and quality of tobacco. Unfortunately no normal physical input-output curves with quality indexes are available for the main New Belt soil types. If such curves existed they would provide a closer guide for the farmer than the current wide fertilizer range recommendations. By budgeting the income effects of alternative rates of fertilizer-use the farmer could determine the rate which would produce the largest sustained net farm income. The inconsistencies which exist between the official recommendations and those of fertilizer manufacturers enhance to some extent the difficulty to the farmer in discovering the most economical rate of fertilizer-use under his particular farming conditions and in view of current fertilizer and tobacco prices.

Major production problems facing Ontario tobacco farmers in addition to choosing the optimum rotation and rate of fertilizer-use include the determination of the most efficient use of labour, credit, buildings and equipment. The choice among different ways of using these inputs is likely to be made by the farmer largely on the basis of how the decisions affect his net farm income over the years.

The Minister of Trade and Commerce announced on November 8, 1950, that an agreement had been reached with the United States Government under which each country extends to the other equal priority assistance to that accorded its own defence contracts to ensure the supply of essential materials and components for the military production programs.

The Minister stated that this does not mean the institution of a formal priorities system in Canada. As was recognized in the Joint Statement of Principles for Economic Co-operation recently signed in Washington, it is neither likely nor desirable that there should be parallel controls on industry in the two countries in view of the differences in conditions which exist. Instead, in Canada the voluntary arrangements which are made to ensure priority production for Canadian defence orders will now also be made available to U.S. defence orders placed with Canadian suppliers. In the United States Canadian orders will have the benefit of the formal U.S. system on priority ratings extended by the National Production Authority.

SEASONAL VARIATION IN THE PRICES OF POULTRY MEAT IN THE MONTREAL MARKET

G. WOOLLAM AND G. MURRAY

Seasonal variation of chicken meat prices is closely associated with the time it takes to raise a chick to market weight. Light roaster and fryer prices vary less throughout the year than those of heavy roasters while broiler prices show the least variation. Poultry management techniques are primarily responsible for these differences in price variation and should be considered when interpreting a seasonal price index of poultry meat.

Production of poultry meat on Canadian farms and marketing are complementary to the production and marketing of eggs. Returns from the sale of poultry meat during the period 1930-49 have been equal to 2·9 per cent of Canadian cash farm income as compared with 4·8 per cent from the marketings of eggs. However, technological changes which have taken place in the production and marketing of poultry meat during this period equalled those which developed in the production and marketing of eggs. Prior to 1930, the majority of poultry meat marketed was slaughtered and dressed by farmers. Today, the amount of poultry meat slaughtered and dressed by farmers is a relatively insignificant portion of total commercial marketings. The daily capacity of poultry processing plants in Canada has increased from less than 100,000 birds per day in 1930 to more than 400,000 birds per day in 1950.

The poultry industry, in addition to having developed a high degree of labour specialization in the production and marketing of poultry meat, has also undertaken to market products which appeal to consumers' tastes. Chickens are marketed as broilers, fryers, roasters and capons, and must all be fattened if they are to meet requirements set by the Federal Department of Agriculture for the better grades of table poultry. Factors which influence farmers in the selection of size of bird they wish to market are the ratios existing between feed prices, and the prices of poultry meat and the market outlook.

Broilers—birds dressing up to 2·5 pounds—may be marketed within 12 weeks of the hatch. They respond well to modern fattening techniques and due to their tenderness are well received by consumers. Four crops of broilers may be marketed each year from one plant.

Fryers—birds dressing from 2·5 to 3·5 pounds—are in a state of rapid growth and do not fatten well. They are considered a light chicken and prices paid for this size of chicken are generally lower than for other sizes of chicken of equal quality.

Roasting chickens may be marketed as light roasters, dressing from 3·5 pounds to 5 pounds, or as heavy roasters dressing from 5 pounds and over. Light roasters are still in the stage of rapid growth and so respond slowly to fattening techniques. Heavy roasters have reached an age when growth is greatly slowed down. They display a natural tendency to fatten and the relationship between feed consumed and the gain in body weight is usually favourable. Heavy roasting chickens are usually ready for market in about 24 weeks.

Capons, as a class, require very little fattening treatment in order to qualify for the top grades of table poultry. Production of this type of bird is not general on the majority of Canadian farms but its popularity is rapidly increasing. The capon is more docile than the cockerel and as a result of this characteristic carries a correspondingly greater amount of fat during the whole growth period.

The successful producer of chicken meat is a student of market prices and undertakes to study the relationship which exists between the product marketed, the price of raw materials required to produce the finished product and the prices of products which compete with the finished product (chicken meat) for the consumers' dollar. Prices of the various kinds of chicken meat generally follow well-defined patterns as do other agricultural products.

Chart I shows the seasonal variation of the wholesale price of Grade A Milkfed heavy roasting chicken in the Montreal market. Montreal is Canada's largest poultry market and prices which prevail in this centre indicate movements of poultry prices across Canada. The index has been calculated from monthly average prices paid to shippers during the years 1935-42 and 1947-49. Poultry meat prices were subject to price controls during the period 1943-46 and so have been omitted from the seasonal index for that period.

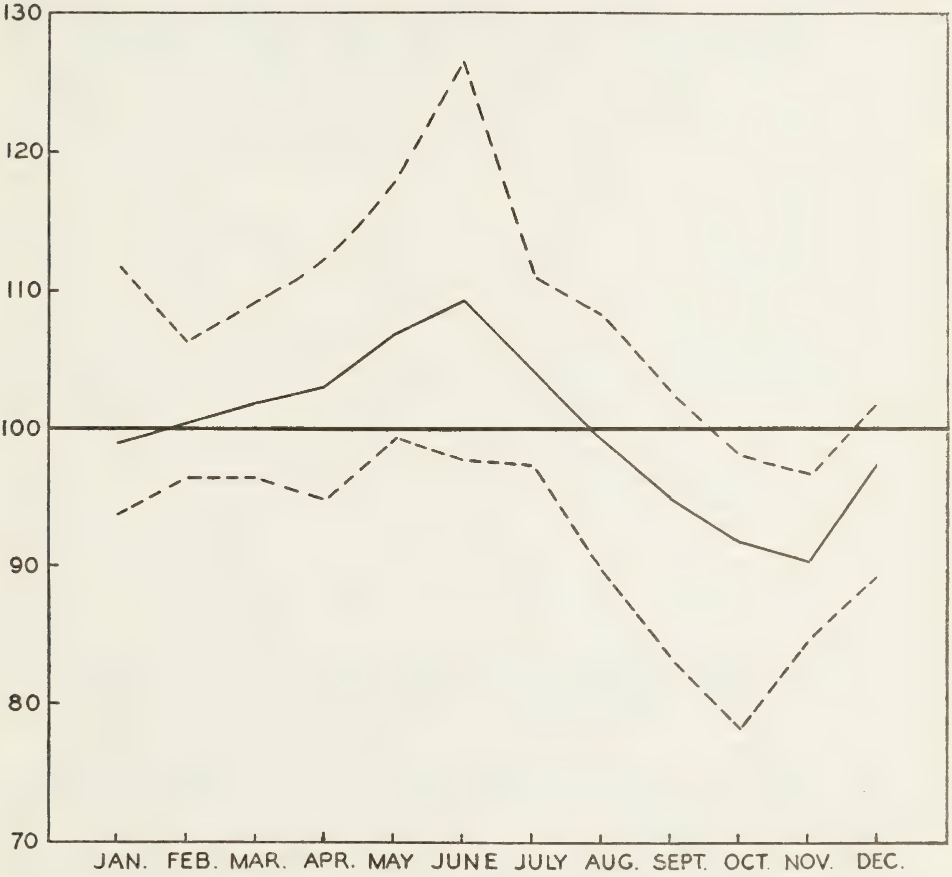


Chart I. Seasonal Index of Wholesale Prices of Grade A Milkfed Heavy Roasting Chicken, Montreal.

There is a defined seasonal price pattern for heavy Milkfed chickens with peak prices 10 per cent above the yearly average in June and falling to a point 10 per cent below in November. This results from the production program. The period of heavy chick hatchings begins in January and in about twenty-four weeks these chicks reach market weight. Marketings generally begin in July and gradually increase until November. The increased supply is accompanied by a seasonal decline in prices.

The broken lines in Chart I on either side of the index show the range of price variation about the average monthly index. The June index in 1936 was 2 per cent below the seasonal average and during the corresponding month in 1938 reached a point 26 per cent above the seasonal average. The cause of these wide fluctuations can be attributed to unusual market conditions prevailing at the time. For this reason the influence of such extreme values has been excluded from the index.

The seasonal price index for Grade A heavy fowl, calculated from prices paid to shippers during the period 1935-42 and 1947-49, differs from the seasonal price index of heavy chicken for the same period. Fowl prices begin their seasonal decline in June rather than in July but both price index series reach the lowest point in November. Variation in the price of fowl is only half as great as in that of heavy chicken. The average variation is 5 per cent above the yearly average in June and 5 per cent below in November. The culling of laying flocks provides the market with a more constant supply of fowl meat. However, the seasonal price decline in the fall reflects the heavier fall culling of laying flocks. A seasonal decline in the price of red meat and chicken also occurs at this time.

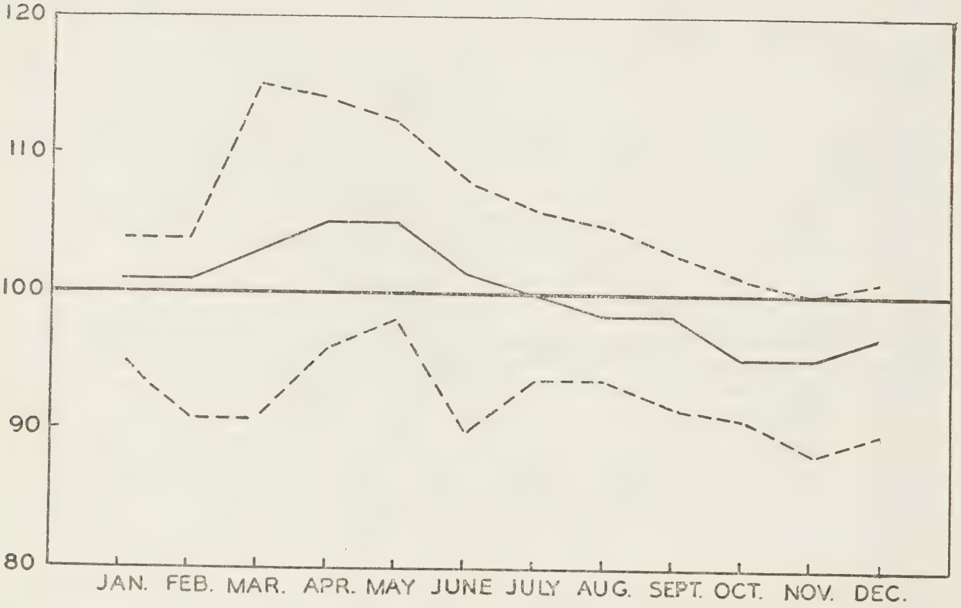


Chart II. Seasonal Index of Wholesale Prices of Grade A Heavy Fowl, Montreal.

Fowl are kept primarily for egg production and the sale of fowl meat represents a salvage return to the owner of the laying flock. This is brought out, in part, by a comparison of the index of fowl prices with that of the index of the price of Grade A Large eggs in the Montreal market.[1] The seasonal price index of fowl moves in the opposite direction to the seasonal price index of eggs and remains above the yearly average while egg production is high and falls below the yearly average when egg production slackens and laying flocks are culled more vigorously.

The average seasonal price patterns of poultry meat over the period 1935-42 and 1947-49 are only a very rough guide to the behaviour of poultry meat prices in any one year. Long term trends developing within the industry and conditions prevailing in the market during the year must also be considered.

---

[1] For an earlier article on seasonal variation and statistical technique used see: "Seasonal Variation in Egg Prices", *The Economic Annalist*, June 1950. p. 67.

THE FARM BUSINESS IN THE GILBERT PLAINS AND SIFTON AREAS OF MANITOBA, 1949

J. G. MacKenzie and T. O. Riecken

The investigation of the farm business in the Gilbert Plains and Sifton areas is part of a comprehensive inquiry into economic and social problems associated with the utilization of land in Manitoba. This study and studies made previously are of areas representative of certain types of farming on fairly large areas of important soils. The study in these two areas extends the investigation to farms on black, degraded black, and grey-black soils.

The Gilbert Plains area is a rectangular block of land lying between the northern edge of the Riding Mountains and the railway between Dauphin and Grandview. It includes most of the southern part of Gilbert Plains and Grandview municipalities. The soils are mostly clay loams and loams of the Meharry and Shortdale associations.[1] The topography is gently undulating to smooth; there are several streams crossing the area which provide local topographic relief. Drainage is generally fair to good.

The Sifton area lies immediately to the north-east of the Gilbert Plains area. The village of Sifton which is about 18 miles north of the town of Dauphin is in the centre of the area. The soils here are generally inferior to those of Gilbert Plains; they vary in texture from light loams to heavy fine sandy loams and sandy loams. The topography is generally smooth, and in some local areas, flat to depressional. The area is crossed by several streams that have very shallow channels which, in times of heavy spring runoff or heavy summer rains overflow their banks and flood surrounding farm lands.

The climate of the area is similar to that prevailing over the eastern sections of the prairie provinces. Winters are relatively long and cold and summers are generally cool. The growing season is about 110 to 120 days, which is long enough to produce most of the cereal crops grown in Manitoba. Long time precipitation records indicate the annual precipitation at Dauphin to be about 16.5 inches.

Method of Study.—This study was conducted for the purpose of obtaining information on land use and on farm organization and operation, and was carried out in two steps. The first step involved the collection of data relating to ownership, assessment and occupancy of each parcel of land. The second was the obtaining of information relating to utilization of land, sources of receipts, farm expenditures, farm inventories and some information on the personal history of the farm operator and his family.

The farms on which business records were taken were selected at random from well-defined size groups. Records were taken in each size group in proportion to the total number of farms in that group. Eighty-one records were obtained in the Gilbert Plains area and eighty in the Sifton area.

The material presented in this article describes the farm business in each area. It also compares the organization and returns from these farms operating under similar types of farming and climatic conditions but situated on different grades of soil.

The Business Year 1948-49.—The period covered by the farm business record was June 1, 1948 to May 31, 1949. The 1948 crop year was a normal one for this area in which crop yields are fairly stable.

For the farms visited, wheat averaged 25.2 bushels per seeded acre in the Gilbert Plains area and 19 bushels in the Sifton area. Yields of oats and barley were equally as good, being 35.6 bushels and 24.4 bushels, respectively, in the former area and 38.6 and 21.0 bushels, respectively, in the latter.

---

[1] For a more detailed description of the soils of the area see *Land Classification Map, Grandview Area in Manitoba.* Winnipeg, Man., Soils Dept., University of Manitoba, 1944.

Farm Size and Tenure.—The farms of the area are small; nearly half are farms of one-quarter section, slightly more than a third are half-section farms and the remainder are larger than a half-section. The average size was 300 acres in the Gilbert Plains area and 257 in the Sifton area.

In both districts there was a high percentage of owner-operators and only a few tenant-operators. In the Gilbert Plains district 75 per cent of the farm units were owned by their operators, 5 per cent were operated by tenants and the remainder included both owned and rented land. In the Sifton district ownership was slightly higher at 81 per cent, but only 3 per cent were tenants.

Land Use.—Three-quarters of the total area of the Gilbert Plains farms and slightly less than two-thirds of the area of the Sifton farms were under cultivation in 1948 (Table 1). The cereal grains, wheat, oats and barley, are generally the most important crops in these districts. Flax acreage was much higher in the Sifton area in 1948 than is normal and was probably in response to the relatively high flax price of that year; the decline in flax price the following year resulted in a decrease in flax acreage and there were only 6 acres per farm in 1949 compared to 24 in 1948.

Table 1.—Land Utilization in the Gilbert Plains and Sifton Areas, Manitoba, 1948

Use	Gilbert Plains			Sifton		
	Average per farm	Per cent of cultivated	Per cent of total	Average per farm	Per cent of cultivated	Per cent of total
	acres	per cent		acres	per cent	
Wheat	67	29·8	....	20	12·0	....
Oats	34	15·1	....	28	16·9	....
Barley	31	13·8	....	15	9·0	....
Flax	5	2·2	....	24	14·5	....
Other Crops	11	4·9	....	23	13·9	....
Summerfallow	77	34·2	....	56	33·7	....
Total cropland	225	100·0	75·0	166	100·0	64·6
Farmstead	6	....	2·0	4	....	1·6
Total unimproved acres	69	....	23·0	87	....	33·8
Total assessed acres	300	....	100·0	257	....	100·0

Coarse grains are raised mostly to provide feed for farm needs; they are most important in the Sifton area where more livestock is kept and where more farms still use horses as a source of power. Oats is the most important crop.

Other crops include grasses, legumes, improved pasture, rye and buckwheat. About 10 per cent of the farms in the Sifton area reported some rye, averaging 12 acres per farm, while no rye was grown in the Gilbert Plains area. The only buckwheat grown was reported by two farmers in the Gilbert Plains area. Climatic conditions in these districts are favourable for production of grasses and legumes for hay and pasture and relatively large amounts of land are devoted to these crops.

Slightly more than one-third of the land is in fallow, indicating that most farmers follow a three year rotation. Weed control is a problem in the Gilbert Plains area, while in the Sifton area the soils are lighter and need for moisture conservation is greater. Use of selective weed killers may result in some change in cropping pattern, as the need for summerfallowing for weed control diminishes.

Farm Capital.—The relatively high average values of real estate in the Gilbert Plains area reflect better productivity as compared with the Sifton area (Table 2). The differences in real estate values however are not due entirely to differences in productivity, as the average farm in the Gilbert Plains area is 43 acres larger than the average Sifton farm. Greater investment in farm buildings in the Gilbert Plains area also accounts for some of the difference in total real estate values. The average value of farm buildings in the Gilbert Plains area was $3,740 and in the Sifton area, $1,820.

The farms of the Gilbert Plains area are, as reflected by investments in machinery and equipment, more highly mechanized than the Sifton farms. The small farms in both districts show an investment per acre of cropland for machinery that is much higher than for other farms in Manitoba.

Investment in livestock was about the same in both districts, but was more important in the Sifton area both in terms of percentage of total investment and as a source of income.

Table 2.—Average Farm Capital in the Gilbert Plains and Sifton areas, Manitoba, 1948-49

—	Gilbert Plains	Sifton
	—dollars—	
Real estate	9,754	3,773
Machinery and Equipment	3,739	2,543
Livestock	1,374	1,469
Feeds and Supplies	577	292
Seed	393	264
Total	15,837	8,341

Livestock.—In the Gilbert Plains area an average of 3 horses per farm was kept, mainly for choring and odd jobs. On the other hand, the Sifton farms had an average of 4.3 horses per farm and 15 of the 80 farms still used horses for all their field work.

The availability of more pasture and a better water supply permitted the Sifton farmers to keep more cattle than the farmers in the Gilbert Plains district. An average of 4.5 cows per farm were kept in the Gilbert Plains area and 6.5 per farm in the Sifton area. Other cattle averaged 5.7 head in the Gilbert Plains area and 7.2 head in the Sifton area. Approximately one out of four farms kept a bull. The prevailing management practice of the cattle enterprise seemed to be one that supplied the farm with dairy products and beef with surplus stock and dairy products sold to provide extra income. Most of the young stock were sold as calves, especially from the farms of the Sifton area. Only one farm in each of the areas sold a considerable amount of milk. Cream sales averaged $162 per farm in the Gilbert Plains area and $242 in the Sifton area.

On most of the farms studied, hog production was only a side-line activity. Just less than half of the Gilbert Plains farms kept an average of 1.5 sows per farm and about the same number in the Sifton area kept 1.3 sows. Many farms preferred to purchase weanlings rather than keep a brood sow. While the hog enterprise is a minor one, it should not be assumed that hogs were raised only for home consumption. In the Gilbert Plains area there were only 58 hogs butchered on the farms surveyed, and there were about 5.5 hogs sold per farm. In the Sifton area there was slightly more than one hog per farm butchered and three hogs sold.

Sheep were unimportant in these areas. Of the 80 farms in the Sifton area only two kept any sheep and of the 81 farms of the Gilbert Plains area, only one farm was reported keeping sheep, having 67 ewes.

Poultry production was more important on the farms of the Gilbert Plains district, where 64 of the 81 farms kept about 135 hens per farm; 17 farms kept no chickens. In the Sifton area 72 of the 80 farms kept an average of 72 hens, the remainder keeping none. Fifty-four per cent of the Gilbert Plains farms purchased an average of 190 day old chicks and 70 per cent of the Sifton farms purchased an average of 140 chicks. Ducks, geese and turkeys were not kept in large numbers.

Cash Receipts.—Income from the sale of crops was the most important source of farm revenue in these districts (Table 3). While flax provided more income than wheat in the Sifton area in 1948, wheat is probably a more suitable crop than flax on most of these farms. In both districts the income from sale of livestock and farm produce is not particularly large, although one farm in the Gilbert Plains area received $3,500 from the sale of fluid milk and another sold $2,000 worth of eggs. One farm in the Sifton area had an income of $1,200 from the sale of fluid milk. On the whole, production of crops was the major enterprise in both districts.

Table 3.—Farm Receipts from Different Sources in the Gilbert Plains and Sifton Areas, Manitoba, 1948-1949

Source	Gilbert Plains		Sifton	
	Average per farm	Per cent of total	Average per farm	Per cent of total
	dollars	per cent	dollars	per cent
Wheat	2,143	47·5	428	15·4
Flax	201	4·4	836	30·0
Other Crops	616	13·5	388	13·9
Cattle	340	7·5	328	11·8
Hogs	232	5·1	108	3·9
Other Livestock	40	·9	35	1·2
Farm Produce	397	8·8	341	12·2
Other farm income[a]	556	12·3	323	11·6
Total	4,525	100·0	2,787	100·0

[a] Includes the current sales of previous year's grain.

Farm Expenses.—The operating expenses of the farms in these areas varied greatly, depending on size, area, and efficiency of management.

The average operating expenses on the farms in the Gilbert Plains area were $2,056 and ranged from $1,367 on the quarter-section farms to $3,361 on the three-quarter section farms and $5,464 on the farms larger than three-quarter sections. The operating expenses on the Sifton farms were considerably lower and averaged $1,388, ranging from $761 on the quarter-section farms to $3,439 on the farms greater than a half-section.

The cost of labour, which includes wages and board of hired and family, but excludes wages and board for the operator, was the largest single item of expense and averaged $790 in the Gilbert Plains district and $453 in the Sifton area.

The cost of operating and repairing all farm machinery and equipment averaged $498 in the Sifton area and $1,018 in the Gilbert Plains area. If the costs of depreciation and investment in machinery were added to the current operating costs, these figures would probably be increased about 40 per cent.

Labour.—Although the farms in these districts were small there were only eight of the Gilbert Plains farms and eleven of the Sifton farms on which the operator supplied all the labour. Sixty of the 81 farms of the Gilbert Plains area hired some labour, most of which was employed on farms larger than a half-section. Less labour was hired in the Sifton district where about half of the farms hired some labour.

Few farms in either district hired labour for the full year and then it was generally the larger farms. Only 3 of the 80 farms in the Sifton area hired labour for the whole year and 14 of the 81 in the Gilbert Plains area. There was more unpaid labour than paid labour on the small farms and more paid than unpaid labour on the large farms (Table 4).

The operator and his family supplied most of the labour in the Sifton district; 55 of the 80 farms reported the use of some family labour. On 46 of the 81 Gilbert Plains farms the family supplied some of the labour.

Table 4.—Hired Labour, Unpaid Family Labour and Operator's Labour, Gilbert Plains and Sifton Areas, Manitoba, 1948-49

—	Gilbert Plains		Sifton	
	Months	Per cent of total	Months	Per cent of total
Hired labour	3·58	19·9	0·96	5·9
Unpaid family labour (except operator)	2·90	16·1	3·59	21·9
Operator's labour	11·51	64·0	11·85	72·2
Total labour	17·99	100·0	16·40	100·0

Although there was more labour used on the Gilbert Plains than on the Sifton farms it was used more efficiently. In the former area one man handled 150 acres of cropland compared to 121 acres per man at Sifton. Cash receipts per man were $3,017 at Gilbert Plains and at Sifton were $2,034.

Size of Farm and Labour Income.—Questions are often raised concerning the financial returns on farms of different sizes. Certainly the returns are low on small farms growing wheat or other grains and even if yields are favourable, returns often may not be sufficient to meet all costs of operation and maintain the farmer and his family. The relationship between size of farm measured in total acres and labour income[1] in the two areas studied is shown in Table 5.

Table 5.—Relation of Size of Farm to Labour Income in the Gilbert Plains and Sifton Areas, Manitoba, 1948-49

Farm Size in Total Acres	Gilbert Plains		Sifton	
	Number of farms	Labour Income	Number of farms	Labour Income
		$		$
40–200	24	53	35	241
201–360	20	696	23	351
361–520	20	748	22	502
521 and over	17	3,771	[a]	....
All farms	81	1,164	80	344

[a] In the Sifton area farms larger than 360 acres were placed in one size group.

---

[1] Labour income is farm income less interest on capital. It represents the wage or salary of the farm operator.

All size groups showed a positive labour income and, with the exception of the quarter-section farms, the Gilbert Plains farms had greater returns than the Sifton farms of the same size. This is mainly explained by the higher investment in the farms of the Gilbert Plains area, particularly for land. The income for the Gilbert Plains farms in the 361-520 acre group is lower than would be expected and is probably explained by the proportionately few acres of cropland as compared with the half-section farms and the farms of the largest group.

The difference in income between farms of different sizes in the Sifton area is not as great as in the Gilbert Plains area. Examining the crop and livestock yields for the Sifton area in 1948, it is found that wheat yields and livestock returns on the larger farms were 20 per cent lower than on the smaller farms.

While the farms of the Gilbert Plains area are generally more productive than the farms of the Sifton area, the returns from the quarter-section farms in both areas are generally too low to provide sufficient surplus to provide for the living of the operator and his family. After allowing for an average expenditure for living expenses of $939 in the Gilbert Plains area and $916 in the Sifton area, the net income on these farms in the former area was minus $208, and in the latter area minus $240, which indicates that part of the cost of maintaining the family could not be paid out of current farm revenue. The half-section farms at Sifton had a net income of $160 and at Gilbert Plains the same size farms had a net income of $469 over living expenses.

REVIEW OF LITERATURE

Johnson, D. Gale. *Trade and Agriculture.* A study of Inconsistent Policies. New York, John Wiley & Sons Inc. 1950. pp. vii + 198.

In the words of the author,

> The book is addressed to all persons interested in agricultural and trade policy. . . . The motivation for writing this book was a simple one. Since 1934 the United States has been evolving a foreign trade and economic policy based on the merits of expanding world trade through friendly and co-operative action by nations. Following the Reciprocal Trade Agreements Act of 1934, important strides were made in reducing import duties and other trade restrictions. During the same period of time, numerous farm programs were developed that required restrictions upon trade and other forms of protection for American agriculture as a means of implementing the programs.

Professor Johnson states that the two programs follow diverse routes and his objective in writing the book is,

> First, to indicate the nature and significance of the elements of inconsistency in agricultural and trade policy; second, to show how the inconsistencies can be resolved without sacrificing the achievement of the important goals in either policy area.

The book is divided into 12 chapters. These are as follows: *The Schism between Trade and Agricultural Policy; The Effect of Agricultural Policy upon Trade; Agricultural Programs and Trade Policy; Foreign Economic Policies and Objectives of Agricultural Policy; Trade Policy and the Operation of Domestic Farm Programs; The Need for Reformulation of Agricultural Policies; A Proposed Farm Price and Income Program; Effects of Proposed Farm Program upon Foreign Trade; Foreign Economic Policy and Economic Stability; The Problem of Agricultural Poverty;* and, *Toward Expanded World Trade.*

Proceedings of the United Nations Scientific Conference on the Conservation and Utilization of Resources. Vol. I, Plenary Meetings. United Nations, Dept. of Economic Affairs. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto). 1950. pp. lxi + 431.

The United Nations Scientific Conference on the Conservation and Utilization of Natural Resources (UNSCCUR) was held at Lake Success, New York, during August and September 1949. The Conference, which was called by the Secretary-General of the United Nations at the direction of the Economic and Social Council, brought together over 700 scientists from 50 countries to discuss and consider more than 500 scientific papers. Canada was well represented and many of her delegates presented papers. The Conference was designed as a step in the mobilization of the world's great store of scientific and practical knowledge in the task of raising the living standards of peoples of all countries. The primary concern of the Conference was with the practical application of science to resource management and use rather than with refinements in research and scientific methodology.

This volume includes the verbatim record of the discussions at these meetings as well as the full text of papers contributed. The main topics covered in the plenary meetings were: the world resource situation (the legacy of resource depletion, the increasing pressure of resources); a world review of critical shortages (food, forests, minerals, fuels); the interdependence of resources (the complementary nature of European resources, the planning of land use for full production with special reference to European conditions); the use and conservation of resources (soil and forest conservation and protection of water supplies, techniques for increasing agricultural production, estimates of undiscovered oil and gas reserves, economics of competitive fuels for various purposes and their use to meet future fuel requirements, metals in relation to living standards); the development of new resources by applied technology (fodder yeast and algae, the contribution of chemurgy, wood fibre, food yeast, fat synthesis by micro-organisms and its possible application in the food industry); methods of resource appraisal; the adaptation of resource programs; assessing resources in relation to industrialization plans; education for conservation; resource techniques for less-developed countries; integrated development of river basins.

The program of UNSCCUR was divided into six major sections corresponding to the following principal resource fields: minerals, forests, fuels and energy, water, land and fish and wildlife resources. In addition there was a series of plenary meetings which considered the broader problems of resource development and which also served to give a common spirit and purpose to the entire Conference.

The complete proceedings of the Conference are being published. There will be a total of eight volumes: I. *Plenary Meetings;* II. *Mineral Resources;* III. *Fuel and Energy Resources;* IV. *Water Resources;* V. *Forest Resources;* VI. *Land Resources;* VII. *Wildlife and Fish Resources;* VIII. *Index.*

Implementation of Full Employment Policies. Report No. 1. Measures taken in the second half of 1949 by various countries for the purpose of achieving full employment. United Nations, Dept. of Economic Affairs. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto.) 1950. pp. v + 52.

This is the first of a series of semi-annual reports to be compiled by the United Nations Secretariat from replies of various countries concerning measures taken for the purpose of achieving full employment. The data contained in Report No. 1 cover the second half of 1949.

The replies of Governments to the Secretary-General's questionnaire are analyzed under five groups: (1) countries in which unemployment was very low or was practically non-existent; (2) countries in which the level of unemployment was significant but still relatively low; (3) countries in which unemployment had assumed serious proportions in the period under review; (4) under-developed countries; (5) Non-Self-Governing Territories of the United Kingdom.

This report reveals that during the second half of 1949 unemployment was either non-existent or at a very low level in countries possessing such widely different economic systems as Australia, Bulgaria, Byelorussia, Luxembourg, New Zealand, Norway, Sweden, the Soviet Union, and the United Kingdom. Unemployment was significant but still at a low level in Austria, Canada, Denmark and Switzerland; but on the other hand the number of unemployed assumed serious proportions during the period under review in Belgium and the United States.

In a second part of the Report selected replies are reproduced to illustrate the types of reply that were received in response to the inquiry of the Secretary-General. Replies of the following countries are reproduced: Belgium, Canada, India, Norway, Switzerland, United Kingdom (including dependent territories), United States.

Economic Bulletin for Europe. United Nations, Research and Planning Division, Economic Commission for Europe. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto). First quarter 1950. pp. 62.

This report is divided into three parts: *Review of the Economic Situation in Europe, January-March 1950;* a special article entitled *Changes in the Relationship between European Production and Trade;* and, *European Economic Statistics.*

In the first quarter of 1950, industrial production in Europe continued to increase at a relatively high rate. A large part of this increase was due to the expansion of textile production. Preliminary reports indicate that the harvest may be even better than last year's. The output of livestock produce continues to increase, and the condition of pastures promises further improvement.

Apart from the usual seasonal movements, little change was noticeable in the employment situation, and the only country where unemployment increased significantly was Austria.

Movements in intra-European trade, although affected by devaluation, appear to have been influenced chiefly by trade liberalization in western Europe, and the fuller participation of western Germany in international trade. This was particularly noticeable in the development of trade in textiles.

Agricultural Requisites in Latin America. Report of the Joint ECLA/FAO Working Party. United Nations, Dept. of Economic Affairs. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto). June, 1950. pp. xvii + 156.

This report was prepared by a Joint Working Committee consisting of representatives of the Food and Agriculture Organization and the Economic Commission for Latin America. The report prepared by this Committee analyses the use of agricultural requisites in Latin America and the factors which are retarding the increased production of food in the region.

During the war there was an acute shortage of agricultural requisites, particularly of farm machinery, but, with few exceptions, this stage came to an end in 1948. The 1945 to 1948 period was marked by a sharp increase in the volume of imports. By the end of 1947, Latin America was importing (in value) three times more fertilizers, four times more tractors and four times more pesticides than in the pre-war period.

The lack of availability of supplies is not now a major impediment to the increased use of agricultural requisites in Latin America. Nevertheless, supply shortages continue to restrict the use of agricultural requisites in certain important cases; supply shortages appear to be confined to heavy equipment, particularly crawler tractors. There is great difficulty in obtaining equipment required for earth moving and land clearing, and this is an impediment to irrigation, drainage and colonization programs in some countries. There is also a shortage of certain types of equipment needed for well drilling, particularly piping and well-casing. Fencing wire, including barbed wire, appears to be the most serious shortage in general farm equipment.

The principal impediments to the greater utilization of agricultural requisites in Latin America are: inadequate agricultural extension services; lack of technical education; inadequate research into the types of agricultural requisites needed for specific conditions; insufficient credit facilities, both for the purchase of agricultural requisites and for the general fostering of agricultural development; the high cost of most requisites to the Latin-American farmer compared with the prices which he has to pay in industrially more advanced countries; shortage of foreign exchange, particularly of dollars; low yields per unit-area, which are not only partly responsible for the poverty of farmers but which often make the use of modern requisites actually uneconomic; the smallness of the farms or operating units in many parts of the region; low rural incomes and comparative abundance of labour due principally to lack of alternative employment opportunities, which would be provided by industrialization; and the poor transport network, particularly the primitive rural roads or tracks.

With the exception of fertilizers, the production of agricultural requisites in Latin America is very limited: only five countries (Argentina, Brazil, Chile, Peru and Mexico) possess facilities for the manufacture of farm machinery and equipment on a substantial scale. In these cases, production is principally concentrated on simpler type implements and the manufacture of spare parts. Fertilizer production is concentrated in only five countries (Chile, Peru, Argentina, Brazil and Mexico) on a limited scale. Pesticides, pesticide materials and equipment are not produced in the region, except to a certain extent in Argentina, Brazil and Mexico.

The Committee made 23 suggestions on how to improve agriculture in Latin America.

THE
ECONOMIC
ANNALIST

B

FEBRUARY 1951

Vol. XXI, No. 1

DEPARTMENT OF AGRICULTURE
OTTAWA, CANADA

LIBRARY

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS
MARKETING SERVICE, ECONOMICS DIVISION
DEPARTMENT OF AGRICULTURE, OTTAWA

Published by Authority of the Right Hon. James G. Gardiner, Minister of Agriculture

INDEX---Volume XXI, 1951

PAGE

Agriculture at the Middle of the Century, Canadian .... *J. F. Booth* 29

Agriculture at the Middle of the Century, Canadian .... *J. F. Booth* 53

Alberta, A Report on Settlement in the Irrigated Rolling Hills Area of Southern .... *H. K. Scott* 112

Alberta, The Cattle Enterprise in Relation to Farm Organization in .... *T. Askin* 133

Canadian Agricultural Trade—1950 .... *M. I. Dunbabin* 64

Canadian Agriculture and the Tariffs and Trade Negotiations at Torquay 1950-51 .... *A. E. Richards* 77

Canadian Agriculture at the Middle of the Century .... *J. F. Booth* 29

Canadian Agriculture at the Middle of the Century .... *J. F. Booth* 53

Cattle Enterprise in Relation to Farm Organization in Alberta, The .... *T. Askin* 133

Consumer Taste Preferences for Cheese at the Royal Winter Fair 67

Economic Situation, The—February 3
—April 27
—June 51
—August 75
—October 99
—December 123

Egg and Poultry Production in British Columbia, 1948-49, Part I .... *R. H. Campbell* 127

FAO in 1950 .... *S. C. Hudson and D. H. Burns* 21

Farm Organization and Operation in the Elbow-Saskatoon Area of Central Saskatchewan .... *G. Haase* 11

Farm Organization in the Carman, Morden, Winkler and Altona Districts of Manitoba .... *O. P. Blaich* 91

Farm Success in the Carman, Morden, Winkler and Altona Districts of Manitoba .... *O. P. Blaich* 106

Improving Efficiency through Quebec Better-Farming Competitions .... *A. Gosselin and R. Choquette* 115

97333

PAGE

Income, 1926-1950, National Production and National 34

International Trade in Relation to Canadian Agriculture 62

Major Developments in the Marketing of Leaf Tobacco in Ontario .... *W. E. Haviland* 6

Manitoba, Farm Organization in the Carman, Morden, Winkler and Altona Districts of .... *O. P. Blaich* 91

Manitoba, Farm Success in the Carman, Morden, Winkler and Altona Districts of .... *O. P. Blaich* 106

Maritime Provinces, 1949-50, Utilization of Dykeland in the ...... *G. Haase* 58

Marshlands of Nova Scotia, Reclamation of the .... *G. C. Retson* 14

National Production and National Income, 1926-1950 34

New Publications by the Economics Division:

April—*Farm Family Living in Lanark County, Ontario, 1947-48* by M. A. MacNaughton, J. M. Mann, and M. B. Blackwood 44

—*Farm Family Living in Nicolet County, Quebec, 1947-48* by M. A. MacNaughton, J. M. Mann, and M. B. Blackwood 44

—*Farm Family Living in Southeastern Saskatchewan, 1947-48* by M. A. MacNaughton, J. M. Mann, and M. B. Blackwood 44

December—*The Dairy Farm Business in Eastern Ontario* by J. A. Dawson 144

—*Farm Organization in the Creston Area of British Columbia, 1947,* by R. C. Blair and E. D. Woodward 144

—*The market for Farm Products in the Creston Valley Area of British Columbia, 1946,* by J. C. Maxwell 144

Population in Canada with Particular Reference to the Maritime Provinces, Trends in Rural .... *J. Coke* 85

Poultry Production in British Columbia, 1948-49, Part I, Egg and .... *R. H. Campbell* 127

Quebec Better-Farming Competitions, Improving Efficiency through .... *A. Gosselin and R. Choquette* 115

Railway Freight Revenue and Traffic Patterns from Waybill Analysis .... *E. P. Reid* 40

Recent Developments in Rail Transportation 19

Reclamation of the Marshlands of Nova Scotia .... *G. C. Retson* 14

Report on Settlement in the Irrigated Rolling Hills Area of Southern Alberta, A .... *H. K Scott* 112

Review of Literature:

February—*Markets for the Products of Cropland in Alaska* (United States Dept. of Agriculture) 24

—*Production and Welfare of Agriculture* by Theodore W. Schultz 24

PAGE

—*Some Economic Aspects of Farming in Alaska (with Chief Attention to the Matanuska Valley)* (United States Dept. of Agriculture) 24

April—*Economic Bulletin for Europe* (United Nations Report) . . 46
—*Henry Wise Wood of Alberta* by W. K Rolph 48
—*Proceedings of the International Conference of Agricultural Economists, Seventh Conference, 1949* 46

June—*Demographic Yearbook 1949-50* (United Nations Report) 71
—*The Foundations of Economics* by Walter Eucken 72
—*Statistical Yearbook 1949-50* (United Nations Report) 71

August—*Residential Real Estate,* by O. J. Firestone 96
—*Review of International Commodity Problems 1950* (United Nations Report) 95
—*The Rural Economy of New England* by John D. Black 96
—*The Valley of the Lower Thames* by Fred Coyne Hamil . . 96

October—*Agricultural Market Prices* by Warren C. Waite and Harry C. Trelogan 120
—*Economic Survey of Europe in 1950* (United Nations Report) 119
—*Index Numbers* by Bruce D. Mudgett 120
—*Review of Economic Conditions in Africa* (United Nations Report) 119
—*Review of Economic Conditions in the Middle East* (United Nations Report) 119
—*Supplement (1951) to Catalogue of Economic and Social Projects 1950* (United Nations Report) 119
—*World Economic Report 1949-50* (United Nations Report) 119

December—*Measures for the Economic Development of Under-Developed Countries* (United Nations Report) 144

Saskatchewan, Farm Organization and Operation in the Elbow-Saskatoon Area of Central . . . . *G. Haase* 11

Saskatchewan, Wheat Yields and Farm Practices in Central . . *J. W. Clarke* 109

Size and Tenure of Farms in Three Prairie Areas of Saskatchewan . . . . *R. A. Stutt* 139

Tariffs and Trade Negotiations at Torquay 1950-51, Canadian Agriculture and the . . . . *A. E. Richards* 77

Technical Assistance to Underdeveloped Countries, Part I . . . . *J. B. Smith and J. F. Booth* 101

Technical Assistance to Underdeveloped Countries, Part II . . . . *J. B. Smith and J. F. Booth* 136

Tobacco in Ontario, Major Developments in the Marketing of Leaf . . . . *W. E. Haviland* 6

Page
Trade—1950, Canadian Agricultural ....*M. I. Dunbabin* 64
Trade in Relation to Canadian Agriculture, International 62
Transportation, Recent Developments in Rail 19
Trends in Rural Population in Canada with Particular Reference to the Maritime Provinces ....*J. Coke* 85
Utilization of Dykeland in the Maritime Provinces, 1949-50 ....*G. Haase* 58
Wheat Yields and Farm Practices in Central Saskatchewan ..*J. W. Clarke* 109

OTTAWA—EDMOND CLOUTIER, C.M.G., O.A., D.S.P., Printer to the King's Most Excellent Majesty, 1952.

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS

FRANK SHEFRIN, Editor

FEBRUARY 1951 Vol. XXI, No. 1

CONTENTS

Page

The Economic Situation 3

Major Developments in the Marketing of Leaf Tobacco in Ontario .... *W. E. Haviland* 6

Farm Organization and Operation in the Elbow-Saskatoon Area of Central Saskatchewan .... *G. Haase* 11

Reclamation of the Marshlands of Nova Scotia .. *G. C. Retson* 14

Recent Developments in Rail Transportation 19

FAO in 1950 .... *S. C. Hudson and D. H. Burns* 21

Review of Literature 24

MARKETING SERVICE, ECONOMICS DIVISION

J. F. BOOTH, Chief

Published by Authority of the Right Honourable James G. Gardiner,
Minister of Agriculture

ANNUAL AND MONTHLY INDEX NUMBERS (a)

WHOLESALE PRICES, FARM PRICES AND LIVING COST INDEXES

Year	Wholesale Prices 1935-39=100			Farm Prices of Agricultural Products 1935-39=100	Commodities and Services used by Farmers 1935-39=100		Cost of Living 1935-39=100	
	Farm Products (b)	Field Products (c)	Animal Products (d)	(e)	Equipment and Materials (f)	Eleven Factor Index (g)	Farm Living Costs (h)	Urban Living Costs (i)
1913	....	....	....	....	85·4	....	80·1	79·1
1914	....	....	....	....	90·2	85·3	82·3	79·7
1915	....	....	....	....	96·9	91·6	86·5	80·7
1916	....	....	....	....	101·7	100·5	93·7	87·0
1917	....	....	....	....	140·7	140·5	111·5	102·4
1918	....	....	....	....	164·1	160·2	131·1	115·6
1919	....	....	....	....	169·1	167·9	143·0	126·5
1920	....	....	....	....	190·1	186·5	171·3	145·4
1921	....	....	....	....	147·4	152·5	139·9	129·9
1922	....	....	....	....	124·6	134·1	127·9	120·4
1923	....	....	....	....	118·3	130·6	128·3	120·7
1924	....	....	....	....	122·3	131·9	125·5	118·8
1925	....	....	....	....	123·2	131·8	123·9	119·8
1926	144·4	158·5	130·2	....	119·9	130·6	121·1	121·8
1927	138·6	149·4	127·8	....	119·9	131·2	119·8	119·9
1928	136·3	134·3	138·2	....	118·3	129·3	118·5	120·5
1929	140·8	137·2	144·4	....	117·6	127·9	117·3	121·7
1930	119·5	105·8	133·3	....	105·6	117·0	113·7	120·8
1931	78·9	65·0	92·7	....	92·2	100·9	103·9	109·1
1932	65·5	60·4	70·5	....	89·3	93·3	97·8	99·0
1933	69·3	69·3	69·2	....	88·8	89·8	95·8	94·4
1934	83·5	80·5	86·5	....	96·8	95·5	97·9	95·6
1935	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	165·3	160·4	170·2	184·2	125·9	152·1	123·2	119·5
1946	177·0	172·9	181·2	200·8	128·0	157·0	127·1	123·6
1947	189·7	179·1	200·2	212·5	139·5	170·4	138·3	135·5
1948	229·6	195·6	263·7	252·4	173·1	196·9	162·8	155·0
1949	225·2	184·9	265·4	251·8	180·3	201·8	173·2	160·8
1950								
Jan.	217·2	180·9	253·5	241·6	184·4	196·3	175·3	161·0
Feb.	219·9	180·2	259·6	245·7	....	....	....	161·6
Mar.	224·8	183·6	266·0	249·0	....	....	....	163·7
April	226·8	185·6	268·0	251·9	191·0	209·7	176·7	164·0
May	229·6	186·3	272·8	252·6	....	....	....	164·0
June	238·8	188·6	289·1	261·1	....	....	....	165·4
July	242·2	188·0	296·3	265·1	....	....	....	167·5
Aug.	229·3	160·2	298·5	251·9	194·3	215·4	180·7	168·5
Sept.	227·9	158·6	297·1	247·3	....	....	....	169·8
Oct.	221·6	156·2	286·9	239·8	....	....	....	170·7
Nov.	223·4	156·3	290·5	239·8	....	....	....	170·7
Dec.	227·5	156·6	298·4	....	....	....	....	171·1

(a) **Revised each issue.**

(b) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo). Ottawa, Monthly Wholesale prices of products of Canadian farms.

(c) Ibid (b). Wholesale prices of grains, hay, tobacco and potatoes.

(d) Ibid (b). Wholesale prices of animals and animal products.

(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo). Ottawa, Monthly.

(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo). Ottawa, Jan., Apr., and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.

(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.

(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.

(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

THE ECONOMIC SITUATION

The Agricultural Outlook 1951[1].—Total domestic demand in Canada in 1951 is expected to exceed that of previous years and further expansion in output of goods and services is anticipated. Rising defence requirements will account for a larger part of total industrial production and the continued pressure of both export and domestic demand will mean higher employment and incomes in Canada in 1951. Defence requirements may also result in a reduced output of durable consumer goods; this may have the effect of leaving more money available for the purchase of non-durable goods, including food.

Prices received by Canadian farmers in 1951 will, on the average, remain firm, with the exception of grains which may be lower. The Canadian Wheat Board is buying wheat, oats and barley at specified minimum prices during the crop year 1950-51. The prices support program of the Federal Department of Agriculture currently covers butter, eggs, cheese and bacon.

Prices of goods and services purchased by farmers for use in production and in living will remain the same or show some increase. Prices of farm machinery, fertilizers, pesticides, and building materials may increase, but feeds may cost less.

Increased employment opportunities in urban industries have resulted in difficulty in obtaining farm labour. As a result of the probable expansion in defence requirements, it may be more difficult to obtain an adequate supply of farm labour in 1951 than in either 1949 or 1950. It is anticipated that the agricultural industry will require about the same number of hired workers in 1951 as it did in the previous year.

Dependent on the approval of the various provincial governments, the Dominion-Provincial Farm Labour program will be carried out again in 1951. Plans for the coming year are based on the assumption that there will be shortages of farm labour, probably more extensive than in 1949 or 1950, and that some organization of the farm labour market and planned immigration of farm labour is necessary.

Cash farm income is expected to be somewhat greater in 1951 than in 1950 but farm operating expenses may be somewhat higher. With little change expected in inventories of farm-held grain and livestock, and no change expected in income in kind, the net income of farm operators from farming operations will show little change from that of 1950 but will probably exceed the 1949 total.

Total supplies of Canadian wheat for the 1950-51 crop year are 575 million bushels. Exports in 1950-51 may reach 275 million bushels while about 155 million will be required for domestic use. The 1950 western wheat crop contains abnormally large quantities of low grade wheat, slightly more than half of the total deliveries being expected to grade No. 5 and lower. Fortunately, the carryover at July 31, 1950 included a large proportion of high quality wheat and as a result, enough of the millable grades should be available to satisfy domestic requirements and to meet this crop year's allocation (approximately 219 million bushels) under the International Wheat Agreement with a small margin left over for sale outside the Agreement. Both the domestic and export markets are expected to absorb significant quantities of low grade wheat. If these estimates are realized, some 145 million bushels of wheat (mostly low grade) will remain for carryover at July 31, 1951.

During the 1950-51 crop year the net supply of feed grains, in relation to the livestock population, will be about 27 per cent above the 1949-50 supply and stands at the highest level since 1942-43. The late western harvest combined with a tight transportation situation has however, retarded the movement of western grains to eastern positions for winter feeding. A generally good crop of feed grains was harvested in eastern Canada and ample supplies of western grains should be available as soon as lake navigation opens.

Continuation of a high level of industrial activity, with full employment and high wages, will maintain a strong domestic demand for meat and meat products, with the result that per capita consumption of meats will not decrease from the relatively high levels of 1949 and 1950. For the period October 1, 1950 to September 30, 1951, slightly lower livestock marketings are anticipated and exportable surpluses of livestock and livestock products will be less than in the preceding 12-month period. Moderate upward pressure on livestock prices in the United States is expected to be a strong factor in maintaining Canadian prices at a high level. Hog gradings during the 12-month period ending September 30, 1951, are expected to be from five to ten per cent less than the five million head graded in 1949-50. Marketings of cattle are expected to continue to decrease during the 12 months ending September 30, 1951. Marketings of calves should be nearly the same as in 1949-50. High prices for lamb and wool have stimulated greater interest in sheep raising and the decline in sheep population appears to be levelling off.

---

[1] Based on statements presented at the annual Federal-Provincial Conference on Agricultural Production, held in Ottawa, November 30 and December 1, 1950.

Total production of milk in 1951 will probably be slightly higher than in 1950 and may reach a total of 17 billion pounds. Numbers of milk cows on farms are not expected to change appreciably.

As a result of the small 1950 chick hatch, egg production during the first nine months of 1951 may be about 10 per cent lower than during the corresponding period of 1950. With prospects for lower feed prices, it is expected that the 1951 chick hatch may be larger than that of 1950.

An increase in the production of all tree fruits is expected in 1951. In British Columbia, the total crop of tender tree fruits will be below average as a result of the winter killing of trees in 1949-50. This is particularly serious in the case of apricots and peaches.

The outlook for the production of the major oilseed crops—flaxseed, soybeans, and sunflowers—is relatively good. Assuming a continuation of the present level of industrial activity, the domestic and export demand for flaxseed and linseed oil should absorb six to seven million bushels with reasonable returns to growers. Increased production of soybeans and sunflower seed could be absorbed readily by the Canadian market.

Domestic demand for most manufactured tobacco products is expected to continue strong. A production of 130 million pounds would appear necessary to meet anticipated domestic and export requirements from the 1951 flue-cured crop. Stocks of burley tobacco are considerably in excess of normal requirements and a continuation of reduced acreage is considered advisable in 1951.

Current Economic Activity

Business and trade activity is continuing at high rates. Even with the seasonal adjustment in employment there are increases in prices, trade and production.

Prices.—The general wholesale price index continued to climb, showing a slight increase in November over October. Since the beginning of 1950 there was a gain of nearly 11 per cent in the general wholesale price index.

Cost-of-Living.—Between August 1939 and December 1950 the cost-of-living index advanced 69·7 per cent. The index was 171·1 on December 1, an increase of 0·4 points over November 1, 1950, and 9·6 points over December 1, 1949. This rise was due to slight advances in all group indexes (food, fuel and light, clothing, home furnishings and services, and miscellaneous), except rents, which were not surveyed.

Wages.—Weekly wages and salaries have shown an increase. Per capita weekly earnings at November 1, 1950, stood at $48.03, the highest figure in the record of over 9·5 years, as compared with $47.57 at October 1950, and $45.10 at November 1, 1949.

Cheques Cashed. — Cheques cashed against individual accounts rose to an all-time monthly peak total of $11,007·9 million in November, 29 per cent higher than the November 1949 figure of $8,540·1 million. This raised the cumulative total for the first 11 months of the year to $91,320·7 million from $79,158·6 million a year ago, or by 15 per cent. Advances were recorded for each of the five economic areas both in the month and 11 months.

Trade—Internal and External.—Department store sales advanced six per cent in November over the corresponding month in 1949 and were up two per cent in the first 11 months of the year. There were large increases in sales in November in the four western provinces and a small gain in Ontario, but lower sales in Quebec and the Maritime Provinces. In the 11 months there were decreases in Saskatchewan and the Maritimes, but moderate gains in the rest of Canada.

Sales in Canada as a whole in November were valued at $98·2 million as compared with $93·0 million a year earlier, and in the 11 months aggregated $754·1 million as compared with $741·3 million.

December sales also showed an increase. For the week ending December 30, as compared with the corresponding week of 1949, department store sales increased ten per cent. Sales in Alberta were 15 per cent higher, Ontario 14 per cent, Quebec 13 per cent, British Columbia ten per cent, and the Maritimes and Manitoba six per cent each. Sales in Saskatchewan declined ten per cent.

Canada's total domestic exports for the first eleven months of 1950 were valued by the Dominion Bureau of Statistics at a preliminary figure of $2,828·5 million, compared with $2,707·4 million for the comparable period in 1949. Estimated total imports for the same period in 1950 increased to $2,908·2 million from $2,547·8 million a year earlier. Domestic exports to the United States reached an eleven-month total of $1,829·5 million against $1,343·7 million, and to the United Kingdom declined to $430·4 million from $655·1 million. Estimated imports from the United States in this period rose to $1,949·7 million from $1,800·9 million, and from the United Kingdom to $371·0 million from $286·7 million.

Production.—Agricultural and industrial production in 1950 exceeded that of 1949. Industrial output, as measured by the index of industrial production increased each successive month in 1950.

Income.—During the first nine months of 1950, Canadian farmers (excluding Newfoundland) realized a cash income of $1,466·9 million from the sale of farm products and from grain equalization and participation payments for previous years' crops. This preliminary estimate is 18 per cent below the corresponding figure for 1949 of $1,799·0 million and compares with the 1948 receipts of $1,754·0 million. In addition to the above receipts, supplementary payments amounting to approximately $13·7 million during the first nine months of this year were paid out to farmers in the drought stricken areas of the Prairie Provinces. This figure compares with $9·2 million and $15·8 million paid out during the respective periods of 1949 and 1948.

The decline in the cash receipts from the sale of grains and substantially smaller grain equalization and adjustment payments up to the end of September this year largely account for the significant drop in 1950 farm income. The income from wheat at $236·6 million is 28 per cent below the $328·2 million realized a year ago. Three factors have largely contributed to this situation. First the initial price to producers of No. 1 Northern wheat in store Fort William-Port Arthur or Vancouver was lowered from $1.75 to $1.40 commencing August 1, 1950. Secondly, severe August frosts in the Prairie Provinces caused considerable damage to the crop and sharply reduced the average grade. Finally, adverse weather conditions delayed harvesting over wide areas of western Canada with the result that total marketings have been below those of a year ago.

Farm income from the sale of coarse grains during the first nine months has also been below that of a year ago. This can also partially be explained by the adverse effect of weather on harvesting and deliveries. In addition, prairie farmers are now selling their coarse grains under the terms of the government compulsory marketing scheme instituted on August 1, 1949. Under this arrangement farmers receive at time of delivery initial prices only. However, in addition to these initial prices obtained at time of delivery, farmers also receive producer certificates which entitle them to share at a later date in any surpluses accumulated by the C.W.B. through the sale of these grains to ultimate consumers.

Cash income from the sale of livestock at $605·9 million is some $60 million above that of 1949. While no significant change occurred in the marketing of cattle and calves, prices averaged higher.

Income from the sale of dairy products estimated at $254·5 million is seven per cent below the corresponding 1949 figure of $274·0 million. A decline of 10 per cent in the cash income from the sale of eggs to the end of September 1950 resulted from lower prices more than offsetting an increase in marketings.

Farm cash income for the year 1950, as reported by the Dominion Bureau of Statistics on January 16, 1951 totalled $2,169 million. This total was down 12 per cent from the 1949 and 1948 totals but is above the 1947 amount.

The labour income (wages, salaries and supplementary labour income, but excluding income of farm entrepreneurs) continue to increase. The total reported for October 1950 was $723 million as compared with $663 million for the same month in 1949. The total for the first ten months of 1950 was $6,678 million as compared with $6,327 million for the same period in 1949.

MAJOR DEVELOPMENTS IN THE MARKETING OF LEAF TOBACCO IN ONTARIO[1]

WILLIAM E. HAVILAND

Early Old Belt History.—The tobacco production history in the Old Belt displays long waves averaging about 12 years upon which are superimposed extreme short-run fluctuations in acreage and price. Crop statistics supplemented by the comments of correspondents over the last 50 years reveal a short-run burley tobacco acreage cycle of varying severity but of fairly consistent duration averaging about 3·5 years.[2] The price data follow a similar pattern but precede their acreage counterparts by one to two years. The relative severity of the acreage fluctuations has been decreasing over the years.

Ontario tobacco farmers often complained about the one-sided bargaining which existed due to the presence of a predominant buyer, but nothing effective was done about the causes of market instability either on the supply or demand sides until 1934. In fact, there is no evidence of any very early attempt to control collectively the extreme fluctuations in production and price which had plagued the industry for so long. From 1921-28, the Canadian Tobacco Growers' Co-operative Company operated, but rather unsuccessfully, as a marketing agency. In 1928 the Tobacco Inquiry Commission in the Provinces of Ontario and Quebec investigated the problems of the tobacco growing industry, and this investigation was followed by an unsuccessful attempt on the part of the growers to form a pool.

Both the Co-operative Company and the Pool lacked effective machinery to control production, whereas the underlying instability of tobacco farming in the Old Belt lay both in production and in the market structure. A relative rise in the price of burley enabled tobacco to compete successfully with alternative crops for enough land to produce a leaf surplus within a year or two. Moreover, farmers went in and out of burley production one or two years too late because they looked backwards to price instead of forwards. All that was needed to initiate, and thereafter to aggravate, consecutive price and production cycles were the unforeseeable elements in production, like weather, and/or variations in consumer demand. But, the alleged manipulation of demand by the buyers may also have been a factor contributing to instability.[3]

The New Belt Crisis in the Early 1930's.—New Belt tobacco farming suffered a serious setback in the early 1930's. The efforts of the flue-cured tobacco growers to organize at this time were successful. Essentially, this was because their efforts had to succeed—there were no close alternative crops for the specialized New Belt farms.

New Belt tobacco farming has exhibited both a high sensitivity of supply to price increases and a marked insensitivity of supply to price decreases. Furthermore, flue-cured tobacco yields were increasing in the long-run.[4] But as long as Ontario's flue-cured tobacco supplied only a part of the domestic demand, the absorption of the crop in a protected market was assured, and no great need existed for a marketing agency. Tobacco prices began to fall as early as 1927, however. Expansion had been very rapid in the New Belt in the late 1920's, and by 1931 the danger of over-supply appeared. As a result of a large expansion in acreage and favourable weather, production increased in 1931 to 24,500,000 lbs., compared with 12,384,000 lbs. in 1930, and the price dropped to 21 cents per lb. from 32 cents. Domestic production had outstripped Canadian requirements for home-grown tobacco, especially after 1929, when general depression developed in the economy.

---

[1] Attention is confined in this article to the developments in the marketing of burley and flue-cured tobacco because these are the most important kinds and because dark tobacco is usually grown on contract. The contract gives a price range or guarantees a minimum, and the actual price is set later when the tobacco is graded and delivered. Two discussions of the economic aspects of tobacco farming in Ontario appeared in *The Economic Annalist*, October and December, 1950.

[2] Canada, Dept. of Trade and Commerce, Dominion Bureau of Statistics, *Statistical Handbook of Canadian Tobacco*. Ottawa, 1947. pp. 1-10. Ontario Department of Agriculture, *Crop Bulletins and Crop Reports*, Toronto, 1896-1949.

[3] For example, a Kent County correspondent complained: "When a man grows a crop like tobacco and he can find only one buyer, it is discouraging. The buyer will perhaps make you an offer, and you have to take it, as it is of no use for feed. Our land is well adapted for tobacco, and we could do well with fair competition in buying". Ontario Dept. of Agriculture, *Crop Bulletin*. April, 1915. p. 10.

See also Canada, *Report of the Tobacco Inquiry Commission in the Provinces of Ontario and Quebec*. Ottawa, 1928. pp. 42-44.

[4] See article in October issue.

The attention of the flue tobacco growers focussed first on the market side of the problem. In 1930, seven plantation companies arranged to hold 500,000 lbs. of leaf off the domestic market, and ship it to the United Kingdom under the Imperial Preference. The Canadian Leaf Tobacco Company also sold 500,000 lbs. of leaf in the United Kingdom. The shipments encountered stiff United States price competition in spite of the Preference, and sold for less than the domestic price. The effect of the contraction in Canadian demand due to the depression was aggravated by the United Kingdom sterling crisis. Otherwise, the good connections which were established in the United Kingdom in 1930 by the producers might have allowed them to dispose of the leaf surpluses there. The British manufacturers could only substitute Canadian for United States leaf gradually, however, due to the inertia of smoking habits.[1] The real significance of the 1930 export venture lay in the long-run implications of breaking into the British market with Canadian flue-cured leaf. In 1932, for the first time, exports of all Canadian leaf exceeded imports. In 1934, the United Kingdom took 97 per cent of the total quantity exported from Canada.

Even if consumer demand had not slackened and shifted to cheaper makes, there were short-run limits to Canada's absorptive capacity of domestic leaf. Although there was a tariff on imports from the United States, Canadian smokers simply had to get used to domestic leaf gradually. The Canadian tobacco content of Canadian cigarettes advanced, however, from 41·1 per cent in 1930 to 99·2 per cent in 1945.[2]

Another important factor contributing to the 1931-33 crisis, was the failure of the flue-cured tobacco farmers to cut back on production in view of the unfavourable market prospects. The underlying economic force at work here was the highly specialized nature of the New Belt farming. The farmers had no more profitable crop to which to turn, even when tobacco itself ceased to be remunerative, and there was no alternative use for their product. The farmers were faced with heavy fixed costs because they had often paid high prices for their farms and had expensive equipment to finance. Family living expenses also were inflexible. Sometimes without even a garden, the farmer was often quite dependent on retail sources of food. The New Belt farmers in general are considered liberal spenders. In any case, tobacco acreages not only remained high, they increased, as the farmers tried to ward off falling incomes by increasing output.

The barn-buying system is used to market the New Belt tobacco.[3] The tobacco plantations probably wielded a mild bargaining influence on behalf of their share-growers, but the ordinary farmer faced a situation in which one dominant buyer acted as leader to a medium-sized and several small firms. A Dominion Combines Investigation disclosed in 1933 that the buyers had practised *holding off the market* and *buying under cover,* but the evidence was deemed insufficient to establish the existence of a combine within the meaning of the Act.[1] The Royal Commission on Price Spreads in 1935 disclosed evidence of monopolistic exploitation of the tobacco farmers.[2]

---

[1] Although some British cigarettes now contain a high percentage of Canadian flue-cured leaf, none of the brands is made exclusively from this leaf.

[2] MacRae, N. A. *Canadian Tobacco Production and Consumption.* Dept. of Trade and Commerce, Foreign Trade Service. Ottawa, 1947. p. 7.

[3] With this system, the tobacco is sold at the barn, much of it prior to stripping and preliminary grading.

Flue-Cured and Burley Tobacco Marketing Associations.—The majority of the flue-cured tobacco growers agreed in 1934 to a voluntary acreage cut of 25 per cent and the buyers co-operated in this plan. Production dropped by over 5,000,000 lbs., the price rose five cents per lb., and the total revenue increased by nearly $147,000. The need for a permanent marketing organization was by now fairly generally recognized. A system was needed to: (1) ascertain annually the quantity and quality of the individual farm and total production before the market opened, (2) negotiate a minimum average price with the buyers on the basis of this appraisal and the market outlook, and (3) remove the worst effects of over-expansion by means of acreage control. Such a scheme was approved by the buyers in 1934, and it was applied under the new Dominion Natural Products Marketing Act. When this Act was declared *ultra vires* in 1936, the Scheme continued under a provincial charter as "The Flue-Cured Tobacco Marketing Association of Ontario".

The fact that the buyers as well as the growers are members of the Association lends a distinctive quality to the arrangement. Acreage control is the outstanding security feature of the organization. The acreage cuts are voluntary in a legal sense, but the discipline of the Association has been quite strict. A non-co-operator is *black listed,* and the buyers buy first from licensed members of the Association. Being black-listed can be a serious handicap in times of market contraction. The base acreages were adjusted between 1942-48 to a fairly uniform two-year (tobacco-rye) rotation standard. An acreage committee meets early in each year to decide the actual acreage allotment for the coming year. Machinery exists to appraise the harvested crop on the basis of quantity and quality. After the crop appraisal, a joint Market Appraisal Committee of six is appointed by the directors from among themselves to negotiate a minimum average price. The board also computes the value of each farmer's crop as a guide to him in his bargaining with the buyers.

The Association does not buy, sell, process or store tobacco itself. On occasion, buying and processing was accomplished, however, through a directorage interlocking with that of the Ontario Tobacco Sales Co-operative Ltd. The Marketing Association undoubtedly has proved a stabilizing influence for the industry. To level out short-run production and price fluctuations in itself is a worthy contribution. Whether the long-run price equilibrium also has been raised is not clear.

In 1943, due to labour shortages, the buyers requested the farmers to do some of the preliminary grading and packing of the leaf in return for an extra payment of 1·25 cents per lb. This payment was raised to 1·5 cents in 1944 and to 2 cents in 1948. The performance of this grading and packing operation by the farmers doubtless has had an educative influence. The buyers keep a record of growers who have good reputations for grading and baling their crops. It is clear, however, that the payment could become a means of obscuring what is happening during negotiations to the price of tobacco. Either the payment should be kept distinct from price negotiations proper (as the growers seem to prefer) and appropriately revised as the cost of the operation changes, or the payment should be merged completely with the negotiated minimum average price.

Four local growers' organizations existed when the Marketing Scheme was inaugurated in 1934. As the New Belt expanded, new local associations were formed and were given representation on the Board of Directors of the

---

[1] Canada, Dept. of Labour, Combines Investigation Act. *Investigation Into an Alleged Combine of Tobacco Manufacturers and Other Buyers of Raw Leaf Tobacco in the Province of Ontario.* Ottawa, 1933. pp. 39-43.

[2] Canada, *Report of Royal Commission on Price Spreads.* Ottawa, 1935. pp. 50-54, 115-116, 147-153.

Marketing Association. The local organizations were retained for information purposes and for the election of directors, but they tended to become inactive. Many complaints were levelled against the Marketing Association over the years, not all of which were discriminating. There is no doubt that tension was rising in recent years, and there was a danger that discipline might be disrupted should surpluses re-appear. Some of the directors wisely anticipated such a contingency, and arranged in 1949, for a more democratic regional representation and election procedure.

Between 1943 and 1947, there was no need for acreage control. It was rather a problem of adjusting domestic and British tobacco allotments. Wartime tobacco production was restrained to some extent by labour shortages, and certain fertilizer elements also were in short supply. But the flue-cured industry expanded rapidly again after the war, and by 1948 domestic stocks were being replenished and the fear of surpluses prompted the revival of acreage restrictions. The Directors of the Association face the delicate and difficult task of maintaining stocks large enough to supply conceivable domestic and export demands and yet small enough to bolster the domestic price of leaf.

Three factors contributed to the development of an effective tobacco marketing mechanism: the specialization of the New Belt, its setback in the early 1930's, and a Royal Commission investigation of the unbalanced leaf market structure. The burley tobacco growers in the Old Belt modelled their Association in 1935 on the lines established by the Flue-Cured Tobacco Marketing Scheme of 1934. The war-time burley production forecasts were faulty because the growers often did not use their allotted acreage for tobacco but for some more profitable crop. In 1941, therefore, the fixed burley base acreage was changed to the average acreage grown in the previous three years. This, in effect, set a tobacco acreage range, and reduced the farmer's cropping flexibility. The acreage fluctuations were not completely eliminated, however. In 1949, the burley acreage grown was 11 per cent higher than in 1948, in spite of the fact that a 15 per cent cut was supposed to be in force in both years. The 1950 burley market outlook appeared hazardous enough for the directors to decree a cutback of 60 per cent from the base acreages.

Barn and Auction Buying.—The weak link in the barn-buying system used in Ontario for the purchase of burley and flue-cured leaf is grading. If grade standards were absolute and tobacco quality obvious, this feature would not be so contentious. But grading itself is a variable capable of some manipulation. The significance of this fact is enhanced by the unchanging values of the various grades relative to each other. The two tobacco marketing associations have augmented the bargaining power of the growers as a whole, but many of the drawbacks of imperfect competition remain as far as the individual farmer is concerned. When buying takes place at the farm under ordinary market conditions, the tobacco grower has inadequate information about the grading of his crop compared to other crops, and even if he were better informed competition among buyers is weak. The buyers also have the advantage of being able to afford full-time experienced fieldmen. The barn-buying system has been retained in Ontario apparently by mutual consent. This consent has not been unanimous or enthusiastic, however, but to a large extent is based on inertia and fear of change.

The chief alternative to barn-buying ought at least to be considered.[1] An auction-floor system, it is said, might cost large buyers more because of the enhanced competition among buyers.[2] This has been the experience in the United States, but there are three large buyers there instead of one. It is not clear how an auction system would work in the latter case. Most of the tobacco farmers in the United States grade their own crops and sell them anonymously through the medium of auction warehouses. The warehouses are independent middlemen, but it is in their interest for their farmer customers to receive a good price. The seller can compare his offers with those for similar grades on the warehouse floor, and the buyer sees the whole crop and not just a sample. The auction system allows small buyers to purchase just what quantities and grades they need. Overseas buyers can get what they want without also taking unwanted leaf. A grower can obtain ready cash during the market by delivering his tobacco to the local warehouse. Of course, there is the grading to be done, and the auction and warehouse fees to be paid, by the farmer. Buyer collusion or tacit understandings are possible in the auction system too, but government supervision seems more feasible at the auction warehouse than at the farm.

---

[1] The Royal Commission on Price Spreads considered this alternative on page 148 of its Report and concluded that "Properly supervised and controlled, . . . the auction system would appear to be the more logical method of marketing".

[2] See W. Baum, "Pricing in the Tobacco Auction". *Proceedings of Annual Meeting of the New England Research Council on Marketing and Food Supply.* Boston, 1949. pp. 108-113.

If the auction system were introduced, the marketing associations would still be needed to control acreages, to negotiate minimum prices, and to store tobacco when necessary. Field inspection staffs are needed for quantity and quality appraisals if a marketing association exists with acreage control and price negotiation functions. It is clear, however, that the crucial marketing issue is the market structure and not where the marketing is transacted.

Summary[1]

The relative importance of tobacco in Ontario agriculture has increased greatly during the last 25 years until tobacco is now Ontario's most important crop, measured in terms of cash farm income. Flue-cured tobacco is the dominant type grown in Ontario and burley is next in importance. Most of the flue-cured tobacco is grown in the highly specialized "New Belt" area centring on Norfolk, Elgin, Oxford and Brant Counties. Burley is grown in the highly diversified "Old Belt" area of Essex and Kent Counties.

There has been a notable rise over the years in the yield per acre of Ontario flue-cured tobacco. Burley tobacco yields, on the other hand, display no upward drift. The importance of the labour factor, especially family and seasonal labour relative to the overall farm picture is spectacular in the case of flue-cured tobacco farming in the New Belt. Share-tenancy, once very important in the New Belt, seems to be on the decline. New Belt farmers have always relied heavily on short-term bank credit to meet operating expenses. There are many hazards in tobacco farming, but fire and, to a less extent, hail are the main risks against which the tobacco farmers formally insure themselves.

The tobacco leaf-handling operations do not lend themselves readily to mechanization because the element of judgment is so essential a part of these operations, but the working of the land, transplanting etc., call for a wide range of tools, machines and the skills to use them. Furthermore, the value of equipment on Ontario tobacco farms has been rising relative to the value of the land.

If tobacco farmers farm mainly for profit, the economic efficacy of alternative farm organizations, practices and intensities of practice is best judged by the effects of the alternatives upon net farm income. For example, longer rotations than the traditional tobacco-rye one are often recommended for the New Belt. Actually, however, the cash crop take-off and the normal net income would be drastically reduced on the typical New Belt farms by making such a change. This is because, under the present price structure, the ratio of economic advantage favours tobacco specialization of a high order on the sandy New Belt farms. If more than a ten-year period is considered, however, tobacco yields under the current and three-year rotations might diverge enough to make the longer rotations more profitable.

The early history of tobacco marketing in Ontario was marked by extreme instability. This instability was due to conditions existing both on the supply and demand sides of the leaf market. The flue-cured and burley tobacco growers organized in 1934 and 1935, however, and they have succeeded since then in materially reducing the uncertainties in the leaf market.

---

[1] This is a brief summary of the two articles on Ontario tobacco farming which appeared in the October and December issues of *The Economic Annalist* and of the present article on marketing.

FARM ORGANIZATION AND OPERATION IN THE ELBOW-SASKATOON AREA OF CENTRAL SASKATCHEWAN

GORDON HAASE

The Elbow-Saskatoon area is a commercial grain growing region. Wheat is the most important single crop, although some coarse grains are also produced, and livestock production is relatively unimportant. The organization of the farms in the area reflects this general situation. Between individual farms, however, important differences in organization exist, due largely to the variability of the soils in the region and to differences in the size of farm unit. This article describes the organizational features of the farms in this area in 1949 in relation to soil conditions and farm size.[1]

The soils in the area are extremely variable in their characteristics. In texture, this variability extends from poor sandy loams to the best clay types. On the basis of texture, topography, natural fertility and other factors, these soils have been given an index rating which provides an excellent indication of their agricultural adaptation.[2] For the individual soil types in this area, these index ratings range from 27 to 71, increasing with quality. For purposes of this analysis, the index rating of 50 provides a convenient division of these soils into the better and poorer categories. The better soils include the clays, various combinations of silty and clay loams, and the more desirable loam soil types, of glacial origin. Those soils having a rating below 50 include the less desirable clay loam and loam types, and the lighter textural types. In this group the fine sandy loams begin to occur, both as distinct larger areas and as mixtures in association with other soil types. These textural groups show significant differences in water-holding capacity and in resistance to erosion, in favour of the heavier soils in both respects.

The range in the size of farms in this area is quite wide, being from one quarter-section to occasional units containing twenty or more quarter-sections. The most typical size of unit contains three quarter-sections, with about 400 acres cultivated and 75-80 acres unimproved, of which 25-30 acres are considered as potentially arable.

The business transactions for the year 1948-49, of a sample of the farms in the area, were obtained by direct interview. Summaries of the farm business are interpreted in relation to the particular farming conditions of that year, since the crop yields in that year were considerably below the long-time average for the area, and farm receipts were correspondingly reduced. For the eleven municipal units concerned, the 1948 wheat yield was 4·9 bushels per acre as compared with an average of 11·0 bushels per acre between 1918 and 1948. The average yield for this 30-year period compares unfavourably with about a 15-bushel-per-acre average for the province as a whole. The 1948 yield at the same time emphasizes the considerable variability associated with yields in this area. Municipal averages range from close to zero in 1937 to about 25 bushels in the most favourable years. For individual farms, the range would be wider than the averages for municipal units.

A preliminary indication of farm organization in this area is given by the capital invested in the farm unit. Total investment in the main items of farm capital, in relation to farm size and soil characteristics, is shown in Table 1.

On the basis of these current valuations, real estate accounts for about three-quarters of the total farm investment on the better soils, and somewhat more than two-thirds of the total for farms on the poorer soils. The value of livestock held on these farms is by comparison only about four per cent of total investment for farms on good soils, and about seven per cent for farms on poor soils. For all farms, the livestock enterprise is relatively less important on the larger units than on the smaller. The average investment in farm machinery, for these groups of farms, ranged from $7.65 to $10.00 per cultivated acre, or from 16·2 to 23·1 per cent of total farm capital.

---

[1] For a description of other aspects of the farms in this area, see *The Economic Annalist*, Vol. 20, No. 5. August, 1950.

[2] Mitchell, J. *A Method of Obtaining a Comparative Rating of Saskatchewan Soils.* Scientific Agriculture. Vol. 20, No. 5, 1940.

Table 1.—The Relation of Soil and Size of Farm to Average Farm Capital, Elbow-Saskatoon Area, Saskatchewan, 1948-49

Soil Class and Cultivated Acres per Farm	Average Acres Cultivated per Farm	Average Value per Farm				
		Land and Buildings[a]	Seed, Feed and Supplies	Livestock	Machinery	Total
		—dollars—				
Good Soils						
0–299 acres	252	10,692	286	824	2,459	14,261
300–549 acres	406	17,090	678	853	4,008	22,629
550–799 acres	641	25,705	1,246	1,407	6,114	34,472
Over 800 acres	1,187	42,697	2,569	1,991	9,991	57,248
Poor Soils						
0–299 acres	202	6,700	296	848	1,541	9,385
300–549 acres	402	11,457	628	1,832	3,616	17,533
550–799 acres	653	18,382	1,247	1,999	6,519	28,147
Over 800 acres	1,162	30,750	1,664	2,102	8,974	43,490

[a] Land—Individual estimates of land value were highly variable for comparable soils but tended to fluctuate around double the assessed value of the land. In the above estimates, land value is taken as double the assessed value in all cases. Other items represent averages of individual estimates.

Farm organization and operation may be further described in terms of the relationships of cash receipts and expenses for the period under review. A summary of cash transactions, in relation to farm size and soil type is given in Table 2, and relates to the crop production period in 1948, and to the following winter feeding period for livestock. The distribution of cash farm receipts reflects the particular conditions of the survey year. Due to low crop yields, the sales of wheat and other grains are unusually low. On the other hand, while livestock represented less than 5 per cent of total farm investment in the area, livestock sales in this year accounted for from 20 to 40 per cent of the cash income of all farms on the better soil types. This is in addition to sales of farm products, which consist mainly of livestock products. The significant effects of the soil differences encountered in this area are indicated by the much higher returns from crop sales on the farms of the good land, both in total value and in relative proportion of total receipts.

The size of the crop harvested does not have the same effect upon farm expenses as upon farm receipts. Many items of farm costs, ordinarily regarded as variable costs, are indeed fixed costs, being independent altogether of volume of output. Harvesting costs show some variation with the yield level, but the other items of cash expenses may be taken as typical for the area at the current price level.

In addition to net cash income from current farming operations, these units had additional cash incomes from participation payments made by the Canadian Wheat Board on account of grain delivered in previous years, and from other miscellaneous receipts from sources outside the farm. These latter include payments under the Prairie Farm Assistance Act, Family Allowances, and income from other investments.

The cash position, however, does not show the true progress of the farm business for the year. Account must be taken of inventory changes with provision for depreciation and interest on capital. After these allowances, the remaining net farm income represents the labour returns of the operator, and this figure may be used to compare the progress of groups of farms under different conditions. On this basis, the accounts of the farm groups in the Elbow-Saskatoon study show on the average, a negative labour return in 1948-49. This again reflects the low crop yields experienced in that year. In many cases, a favourable cash position was partly attained through inventory declines, and the relatively favourable level-of-cash-living expenses made in that year was allowed only through failure to provide reserves for depreciation of capital equipment.

Table 2.—Relation of Soil and Size of Farm to Cash Farm Receipts and Expenses, Elbow-Saskatoon Area, Saskatchewan, 1948-49.

——	Good Soils				Poor Soils			
Cultivated Acres	0–299	300–549	550–799	Over 800	0–299	300–549	550–799	Over 800
	—dollars—							
Farm Receipts—								
Wheat	659	1,155	1,375	2,390	245	482	1,066	1,605
Other crops	5	104	174	414	68	67	225	423
Livestock and livestock products	526	696	837	1,473	382	997	1,506	1,377
Custom work	47	105	207	122	58	45	125	249
Other	27	50	125	53	127	57	18	46
Total cash farm receipts	1,264	2,110	2,718	4,452	880	1,648	2,940	3,700
Farm Expenses—								
Machinery repairs, fuel	449	751	1,096	1,611	349	682	916	1,492
Seeds, fertilizer	140	94	153	200	84	78	196	189
Hired labour	14	86	153	452	10	77	116	598
Real estate repairs and upkeep	49	122	122	205	55	90	109	110
Taxes	140	227	328	557	73	151	260	389
Insurance, telephone and miscellaneous	33	49	61	101	21	27	56	113
Livestock feed and expense	138	122	93	203	57	84	138	271
Total cash farm expenses	963	1,451	2,006	3,329	649	1,189	1,791	3,162
Balance, cash operating account	301	659	712	1,123	231	459	1,149	538
Other cash receipts—								
Equipment sales	84	232	276	727	77	50	586	448
Previous year's crop sales	92	183	424	1,506	49	153	395	325
Participation certificates	356	615	1,117	2,006	305	582	935	1,546
Other non-farm cash receipts	434	751	621	956	538	537	737	1,211
Total other cash receipts	966	1,781	2,438	5,195	969	1,322	2,653	3,530

Part of the returns from farming which are received by the operator and his family may be considered as returns to labour and management, and part as returns to the capital which the operator himself has invested in the farm. For the individual this investment represents the value of his owned assets less the amount of his liabilities, or his net worth. Net worth represents savings over the operator's lifetime, and which, invested in a farm business, provide him with part of his income. At the same time, the ratio of total assets to liabilities permits a current appraisal of the long time prospects for the success of the farm.

Despite the low yields experienced in the year under review, the farms in the area were found to be in a relatively favourable position with respect to prospects of ultimate solvency. For farms on the good soils, the ratio of assets to liabilities ranged from 5·7 to 14·0, with the larger farms in the better financial position. For farms on poor soils, the ratio ranged from 13·6 to 18·4, with a less distinct tendency for the larger farms to have fewer liabilities in relation to total assets. In general, the farmers on the less desirable soil types, while having fewer assets than farmers with comparable sized farms on the better soil types, also had relatively fewer liabilities, and a correspondingly greater prospect of an ultimate debt-free situation. It may be noted however, that all farm groups have a preponderance of assets in relation to debts, and thus appear to be in a position to successfully withstand considerable financial reverses.

An alternative measure for the progress of the farm business in any period is given by the change in the net worth of the operator for that period. Taking these farms in groups according to size and soil, all the operators concerned averaged a decrease in net worth in the year 1948-49. Among these farms, this decline was greater for larger farms than for smaller. At the same time, for groups of farms of comparable size, the operators having good soil suffered less setback than those on the poor soil types. In general, this decline in operator's net worth means that farm operations and family living for that year required, in addition to current receipts, a measure of disinvestment of the farm capital.

RECLAMATION OF THE MARSHLANDS OF NOVA SCOTIA[1]

G. C. RETSON

On April 14, 1949, the Nova Scotia Legislature passed "An Act to encourage the development and rehabilitation of the Marshlands".[2] This Act sets forth in some detail the terms and provisions affecting the lands concerned, and the activities and responsibilities of various organizations taking part in the proposed program. It came into force about a year after an Act passed by the Federal Government providing for the initiation of a marshlands rehabilitation program in the Maritime Provinces.[3]

This article is largely historical and deals with some of the developments preceding the inauguration of the Maritime Marshland Program. While much of the discussion is applicable to the overall program, the material will be confined mainly to developments in the Province of Nova Scotia.

Nature, Extent and Location of Marshland.—In the Nova Scotia Act marshland is definied as "land lying upon the sea coast or upon the bank of a tidal river and being below the level of the highest tide". The term *works* is commonly used to include dykes, aboiteaux, breakwaters or other facilities necessary for the protection and operation of marshlands.

Most of the marshlands expected to be dealt with under the Act are those lying on the coast or along the tidal rivers of the Bay of Fundy in the counties of Annapolis, Kings, Hants, Colchester and Cumberland. Census data do not provide a separate enumeration of marshland. It has been estimated that land reclaimed at various times would total 50,000 acres.[4]

The Bay of Fundy is subject to very high tides.

> Levels taken by the engineers of the projected Chignecto Ship Railway, probably in 1893 show: (1) That mean sea level at the head of the Bay of Fundy and in the Gulf of St. Lawrence is practically the same; (2) that at ordinary high water the waters of the former are 18 feet above, and at ordinary low water are 18 feet below mean sea level; . . .[5]

The Bay is funnel-shaped and as the tide is constricted it may in some places rush forward as a wall of water one to six feet high. At Noel Bay the tide reaches a height of over 50 feet above sea level at spring tides. These rapid rushing waters carry a large volume of fine soil particles which are deposited as a point of equilibrium is reached between the incoming tides and the dammed back fresh water of the outflowing streams. Such deposits, often of considerable depth, form very fertile fields when protected from the sea. It is not unusual to hear of hay fields which have not been ploughed or fertilized for over 100 years producing two or three tons of hay per acre. The ground water under these soils is practically motionless. Hence the minerals, instead of leaching out as is the case in upland soils, tend to diffuse upwards and in some areas after two centuries of cropping appear unimpaired. Such land commonly sold from $100 to $200 per acre fifty years ago, and sales as high as $400 per acre have been recorded. Much of this same land today has little if any agricultural value since the dykes which held out the sea water have been breached and much of the land is covered by salt water at high tides. In view of these sharply contrasting circumstances a brief sketch of the history of these marshes may be of interest.

---

[1] While this is a Maritime program, the material in this article will be confined mainly to the situation in the Province of Nova Scotia.

[2] Statutes of Nova Scotia. 13 Geo. VI, Chap. 2. An Act to Encourage the Development and Rehabilitation of the Marshlands. New Brunswick passed a similar law at the same time.

[3] In 1949 a large scale reclamation program, to be operative over a number of years, was undertaken by the Canadian Government in co-operation with the provincial governments of Nova Scotia, New Brunswick and Prince Edward Island, and the marshland owners. In this new program a combination of old techniques and modern engineering methods employing large construction machinery is being used.

[4] Nesbit, D. M. *Tide Marshes of the United States.* U.S. Dept. of Agriculture Miscellaneous Special Report No. 7. Washington, D.C. 1885. pp 39-40.

[5] Warren, George M. *Tidal Marshes and Their Reclamation.* U.S. Dept. of Agriculture. Office of Experiment Stations—Bulletin 240. Washington, D.C. 1911. p. 87.

History of Bay of Fundy Marshlands.—The early settlers of the Bay of Fundy area came largely from the Lowlands of the Loire in France where much of the farming is conducted on land reclaimed from the sea. It was natural that they should transfer this familiar farm practice to the new land. It is reported that one of the first dykes was constructed near Annapolis Royal in 1617. The early French dykes were of the type of construction now commonly referred to as running dykes. They followed the shore line of the sea coast or streams and were built back to the upland. A later development introduced by the French was the aboiteau, the first of which was built on the Cumberland Marshes in 1746, under the direction of Father Joseph de la Loutre. This consisted of a sluice with gates which opened to the sea permitting outflow of fresh water, but which closed with the incoming tide. An aboiteau located on a stream traversing a marsh greatly reduced the amount of running dyke required.

Following the expulsion of the French Acadians in 1755 the marshlands were taken over by settlers from New England and Britain. These settlers together with some French who were allowed to stay in the country on taking the oath of allegiance maintained the existing works and constructed many new dykes.

The next major development in marshland technique was the introduction in 1815, of what was known in England as *warping,* by Toler Thompson a farmer of Middle Sackville. This consisted of dredging a canal by which the tidal water could overflow low lying swamp or bog land. In a few years deposits were laid down which formed highly fertile fields when the sea water was later excluded. S. L. Boardman, in his report to D. M. Nesbit,[1] describes an experiment in warping conducted by a Mr. Thomas Esterbrook of Sackville in which deposits to a depth of 23 inches were laid down during a five-month period in 1883.

The operation of dyked marshlands probably reached its peak in 1910 when George M. Warren, Drainage Engineer with the United States Department of Agriculture, visited the Maritime Provinces and recorded his observations in a bulletin entitled *Tidal Marshes and Their Reclamation.*[2] At the time Warren was conducting a study of tidal reclamation in the North Eastern Atlantic States, and the visit to the Maritimes represented only a special phase of his investigations. His report contains a general summary of research previously conducted in the field and a detailed study of projects in New Jersey, Delaware and Massachusetts in addition to the article on Maritime marshlands. The reasons given for conducting such a study may be of interest:

> The population of the United States is increasing rapidly and in one State now exceeds 500 to the square mile. Due to this fact there is a growing scarcity of good upland farms and a widespread inquiry for detailed information on various phases of marsh-reclamation work. Under these circumstances the Department of Agriculture, through drainage investigations of the Office of Experiment Stations, has sought by critical study into certain engineering and agricultural problems involved to further advance the cause of tidal-marsh reclamation and to deduce practical, up-to-date rules for the guidance of those having in charge the design or construction of drainage works in sea coast marshes. . . The importance of the subject is recognized everywhere. The inherent fertility of much of this land, its exemption from the evil effects of prolonged droughts and its proximity to the populous seaboard cities, emphasize

---

[1] Nesbit. Op. cit. p. 44.

[2] Warren. Op. cit. pp. 83-99.

> this importance. Not alone are the agricultural possibilities almost boundless, but the health, comfort and well being of thousands of people must inevitably be promoted.[1]

Probably the feature of the Bay of Fundy marshlands which most impressed Warren was the height of the deposits built up by the high tides. Farmers who are apt to damn the savage-Fundy tides which batter their dykes are often unaware of the mixed blessing involved. In practically all other marshland reclamations it is necessary to have pumps to remove seepage or surface water. This adds considerably to the cost of operating such lands.

Warren makes a number of interesting comments on the technique of warping as practised by Toler Thompson and others. His observation that such marshes would have to be renewed periodically is quite evident today. The area originally developed by Thompson is now probably in a condition comparable to that when he commenced his operations.

Warren was particularly interested in sluice construction and describes in some detail an effective device developed by a Mr. Arthur Hicks of Upper Sackville for sealing the seat and preventing leakage. He comments on the matter of subsidies which was then as now a matter of considerable interest to marshland owners. He discounts the theory (still commonly held) that the Eastern coastline is sinking, and notes that sinking or shrinkage is an experience common to marshlands throughout the world, the rate in some cases being as much as an inch per year. He discusses the effects of *mudding* which was a common practice at the time. This consisted of hauling and spreading marsh mud on upland soils. He remarks on an orchard owned by a Mr. Gustavus Bishop of Greenwich, N.S., where yields had been considerably increased by this practice, and how the fertilizing effect of marsh mud was much more persistent than that of commercial fertilizers. Some reference is also made to the effect of lime and drainage on blue-clay soils.

In referring to the value of the marshes, Warren quotes from a letter from Professor Andrews of the University of Mount Allison at Sackville, N.B., which states:

> Land which three years ago I bought at the rate of $15 per acre yielded me a crop of hay which was sold standing at a rate which paid me 5 per cent on a valuation of $180 per acre, and the man who bought the hay estimates that he paid considerably less than $4 a ton, so great was the yield.[2]

In conclusion he states as follows:

> The reclaimed marsh lands around the Bay of Fundy are very extensive, very valuable, an important agricultural asset, and are closely interwoven with the industrial and economic life of the people. Not only farmers, but merchants and professional men who are looking for good sound 8 and 10 per cent investments believe and invest in these reclaimed marsh lands. . . Unquestionably the fundamental reason (for their successful operation) lies in the great nature-bestowed gift of a large range of tide, which has built the marshes high and permits the sluices to play long periods of time, thus securing adequate drainage easily, cheaply and certainly.

Another interesting report which should be mentioned is that of S. L. Boardman, State Agent for Maine for the Department of Agriculture. This report was a contribution to *Tide Marshes of the United States, a Special Report*[3] prepared by D. M. Nesbit, and printed in 1885. Boardman's report on the Bay of Fundy Marshlands is of a more general and historical nature, and much of the material on marshland techniques is discussed in more detail by Warren.

One point on which Boardman has some interesting observations is the effects of flooding the marshes. This is a practice which is seldom, if ever, practised today.

---

[1] Warren. Op. cit. p. 10.
[2] Warren. Op. cit. pp. 98-99.
[3] Nesbit. Op. cit. pp. 33-62.

According to Longfellow's well known reference in *Evangeline* the Acadian French flooded their marshes at regular intervals. In later times this practice was generally felt to be harmful. Following the "Saxby Tide" of October 4, 1869 when practically all of the marshes were flooded, Boardman reports:

> Then it was said that the dikes were "ruined" for grain and grass production. But, on the contrary, they proved better than ever. . . It is now believed by the best farmers that all dykes should have a dash of tide once in eight or ten years.[1]

Like Warren, Boardman was very favourably impressed with the marshlands and states in conclusion:

> In a country where there are so extensive tracts of diked land as at Amherst, Sackville, Grand Pré and all about the headwaters of the Bay of Fundy, it is plain that the agriculture of entire countries is founded upon the system of dikes which there exists.[2]

Mr. Lawrison has also said,

> The dikes are the life and soul of our system of farming, as with them we have fat cattle, horses, and sheep; fine dairy cows; can cut hay and sell it and make our uplands just as rich as we please. . . "We could not stay in the country were it not for the dikes," said a good and intelligent farmer to me at Truro. And these expressions convey a good idea of the great value to the agriculture of these provinces of the diked lands—the best class of soil and the most productive fields of any I have ever examined anywhere.[2]

The optimistic situation described by Boardman and Warren soon went into decline. During the early 1900's there commenced the deterioration of the marshlands which is climaxed in their present unhappy condition. The extent to which this deterioration merely reflected the general decline in Maritime agriculture which occurred during much of this period, is difficult to say. There are, however, a few factors which are probably of special significance. These include shortages and increased costs of labour during World War I; the decline of the hay market during the 1920's followed by the depression of the 1930's when all farm capital deteriorated. Finally there were the extreme shortages of labour during and after World War II, combined with rapidly rising costs.

Other factors which probably played a part included unrealistic assessments, absentee ownership and weaknesses in marshland organization. Another factor which probably exerted considerable indirect influence was the fact that the productive value of marshland tended to decline in relation to upland soils. Improved developments and new techniques such as fertilizers, lime, and mechanization tended to increase the productivity of upland soils at a faster rate than for the marshlands.

One factor which has probably exerted a major influence on the deterioration of the marshes in the past 40 years is increased maintenance costs, due largely to increased costs of labour. Boardman notes that,

> When the Queen Anne Dike was built, in 1877, men were hired for from 60 to 70 cents per day and board. . . The annual cost of repairs and keeping the dike in good order is about 75 cents per acre, but on some large dikes, as at Amherst it will not exceed 50 cents an acre for a term of three years.[3]

Not only have wage rates increased but it is probable also that the average output per worker on many phases of marshland operations has declined considerably. In discussing the use of oxen and horses Boardman notes,

> At the Tantramar dikes—and I am sure their practices there were first class in every respect—they strongly disapproved the use of teams.[4]

---

[1] Nesbit. Op. cit. p. 52.
[2] Ibid. p. 54.
[3] Ibid pp. 46+51.
[4] Ibid. p. 49.

Mr. Lawrison remarked,

> It would make our dikes cost too much. At that place I saw old dikers "slinging" spadefuls of that heavy bottom marsh soil from 20 to 23 feet and doing it with apparent ease, at a good "all-day" jog. We could see no need for hand-barrows or ox-teams at such work.[1]

Many of the "old dikers" referred to by Boardman probably did little else but such work. Dyking was regarded as something of an art and stories were told of the feats performed by certain celebrated individuals. During the past 40 years little dyke construction has been carried on. Accordingly there are few men alive today with extensive experience and knowledge of the problem involved.

Probably the most significant feature of the maintenance costs, however, is the fact that the program of mechanization and improved techniques which greatly increased the productivity of workers on upland soils was not applied to dyke construction. The operation of heavy machinery on marshland terrain presents difficulties. Considerable experimental work is now being conducted in the matter. The extent to which machinery can be adapted to marshland operations will have an important bearing on the eventual success of the rehabilitation program.

Both Boardman and Warren emphasized the effectiveness of Maritime marshland legislation and its influence on efficiency of marshland organizations. Warren noted that such legislation was considerably superior to that in effect in the North-Eastern Atlantic States. Such legislation did not, however, provide for the integration of marshland bodies to the extent which seems desirable today.

It is a fairly common development for deposits of marsh mud to be laid down outside established dykes. As these deposits become sufficiently extensive new dykes are constructed to enclose the area. On the Canning River, for example, at least five old dykes are recognizable. In some cases the development of these new marshes was not carried on as an extension of the original organization, but rather by new marsh bodies. In this way it was possible to have a series of dykes operated by separate organizations with the expense for the protecting works borne mainly by the owners of the outside dyke. Under such circumstances whole tracts of marshland have been lost by the successive breaching of one dyke after another. This situation has been recognized and provided for in the current rehabilitation program. To take advantage of the provisions of the reclamation program the various marshes in the situation described above would have to combine in one organization "whose boundaries are shore and upland only".

Another revision in marshland legislation is the stipulation that each organization shall establish a reserve fund. When breaks occur in a dyke prompt action is necessary to effect repairs, since extensive damage may quickly ensue. All marsh bodies taking part in the program must set up reserve funds to cover such emergencies.

It is not possible in a brief article to discuss in detail the various factors which have contributed to the decline of the marshlands. It would be an even more difficult task to assess their relative importance in the overall picture or in specific areas. A dyke, like a chain, is only as strong as its weakest link, and any combination of the above factors which may have brought about a reduction in maintenance were aimed directly at the weakest part of the protecting works. In view of the probable significance of historical data it would seem, however, that this might well be given some consideration as part of the rehabilitation program.

---

[1] Ibid. p. 49.

In summary it may be noted that prior to World War I the operation of the marshlands appears to have been a highly profitable undertaking. Thereafter the reverse appears to be the general rule, although there are a number of areas which are currently operated quite successfully. For a number of reasons, some of which have been noted, farmers apparently did not find it profitable to maintain their dykes. In investigations of various proposed projects which may be dealt with in the rehabilitation program it would seem that one of the primary considerations might be an analysis and evaluation of the factors which have influenced success or failure in the past, and the extent to which these factors are currently applicable or are likely to apply in future.

CURRENT DEVELOPMENTS IN RAIL TRANSPORTATION

Livestock Freight Rates Case, 1950[1]

Livestock freight rates were increased in all parts of Canada on December 15, 1950. The railways had filed tariffs covering the increases in late August, and the effective date shown was October 2. However, in September a number of parties[2] interested in the shipment of livestock asked the Board of Transport Commissioners to cancel or suspend the tariffs to permit a study of them and the probable argument that they were unjustified under the Railway Act. The Board postponed the effective date to December 15, and announced sittings to hear arguments of the applicants in Calgary, Regina, Winnipeg and Ottawa in late November.

On December 1, at the conclusion of these hearings, the Board ruled that the tariffs would be effective without further postponement inasmuch as the applicants had not made a *prima facie* case that the proposed rates were unjust or unreasonable or unjustly discriminatory between localities. The panel hearing the case was under the chairmanship of Assistant Chief Commissioner Hugh Wardrope, and the other members were Commissioners H. B. Chase and W. J. Patterson. The latter dissented from the decision on the ground that a *prima facie* case had been made and that the railways, as respondents, should be required to adduce evidence before a final decision was rendered.

The sittings were held on seven days—one in Calgary, two in Regina, one in Winnipeg and three in Ottawa. Briefs and arguments numbered three in Calgary six in Regina, one in Winnipeg, and two in Ottawa. Represented at the hearings were breeders' and shippers' associations and co-operatives, the Canadian, Alberta, and Manitoba Federations of Agriculture, and the Province of Alberta.

The railways' case was based on their exposition of the nature of the proposed increases as being restorations of voluntary reductions which they had granted in livestock rates in 1921. At that time the Board had been unable, after hearings, to rule the existing rate level as unjust or unreasonable. However, livestock prices were recognized to be low, and the outcome of a round table conference, arranged by the Board between the railways and farmer and agricultural spokesmen, was a reduction in rates effective August 15, 1921.

In both eastern and western Canada the rates effective prior to September 13, 1920, were restored. Livestock rates along with rates in general had been increased in late 1920 and early 1921 to 130 per cent of the September 12, 1920 level in western Canada and 135 per cent of that level in eastern Canada. In each case the 100 per cent level was restored. Rates on shipments from western to eastern Canada were reduced to a level somewhat higher than that in effect in early 1920—between 105 per cent and 107½ per cent of that level.

The table sets forth the effective dates of changes in livestock rates and of rates on basic commodities other than livestock.[3] The general lowering of rates in December 1921 and August 1922 was not effective on livestock, which was judged to have received more than these two reductions in the large decrease of August 1921. The changes of 1948, 1949, and March and June 1950 were applied generally on domestic rates including livestock rates.

---

[1] Prepared by E. P. Reid.

[2] Including Province of Alberta, Canadian Federation of Agriculture, Transportation Commission of the Maritime Board of Trade.

[3] The one date when basic commodities received consideration was August 1, 1922; otherwise the "Basic" column might be headed "General Rate Level".

Changes in Livestock and Other Basic Commodity Freight Rates, 1918-1950
(Rate in Effect August 15, 1918-September 12, 1920 = 100)

Effective Date	West		East	
	Livestock	Basic Commodities	Livestock	Basic Commodities
Aug. 15, 1918–Sept. 12, 1920	100	100	100	100
Sept. 13, 1920	135	135	140	140
Jan. 1, 1921	130	130	135	135
Aug. 15, 1921	100	130	100	135
Dec. 1, 1921	100	120	100	125
Aug. 1, 1922	100	112½	100	117½
April 8, 1948	121	135	121	142
Oct. 11, 1949	131	146	131	153
Mar. 23, 1950	140	156½	140	165
June 16, 1950	145	162	145	170
Dec. 15, 1950	162	162	170	170
Dec. 15, 1950 rate as per cent of June 16, 1950 rate	112	100	117	100

The railway tariffs filed to become effective October 2, 1950, and which were actually effective December 15, 1950, were calculated to give effect to the livestock rates which would now be in effect if no voluntary reduction had come in 1921 and if the rates had followed the general trend of basic commodity rates. This involved immediate increases (between December 14 and 15, 1950) of 11-14 per cent in western Canada and 15-20 per cent in eastern Canada. The excess of the western over the eastern scale has been reduced in the new tariffs. The west-to-east rates are increased by proportions up to 14 per cent in Manitoba, 10 per cent in Alberta, and some small reductions as well as increases in Saskatchewan. This is resulting in an elimination of the *hump*, mileagewise, in the rates to the East, that has prevailed in much of Saskatchewan for 50 years. In the same spirit of recognizing the mileage criterion, long-standing groupings of stations in Alberta have been abolished in respect of rates on shipments to the East.

In the railway's submission at the hearings, the rates are now restored to the *normal* level, a procedure that needed for justification mainly just recognition of the fact that the livestock industry was no longer depressed but rather enjoying one of its most prosperous eras. They argued further that "the rates on livestock at their present level are almost certainly non-compensatory" in respect of cost of providing the service.

The arguments of the applicants hinged on statements that: 1) the favourable market position of livestock shippers developed only in very recent years and could reasonably be predicted to be of short duration, and that important rate alterations on particular commodities should not be based on transient conditions; 2) that there is no warrant for a concept of *normal* for any rates already below standard scales—as all commodity rates are—and that the existing livestock rates having served for 29 years could no longer be regarded as depressed; 3) that the rates were probably compensatory at the current level and would be so with a large margin at the proposed scale, and that ton-mile comparisons had to be considered along with car-mile comparisons in appraising whether a rate scale is compensatory or not (livestock freight revenue per ton-mile is more than double the average for comparable traffic, whereas per car-mile it is only 60 per cent); 4) that livestock producers had already incurred large increases in expenses including increases in freight rates on exhibition and purebred shipments; 5) that more traffic than ever will go to highway carriers.

The Board was not able to judge any of these contentions to be established with sufficient strength or to be sufficiently pertinent to the case to require further and positive argument by the railways, and gave its decision accordingly.

Railway Wage Rates

Railway employees, except those on the trains, who are still negotiating, were granted a further three cents per hour increase in pay retroactive to September 1, 1950, and a five-day week beginning June 1, 1951. These provisions were included in Mr. Justice Kellock's report, published on December 19, of his arbitration of the dispute which led to the railway strike of last August. He stipulated that the contract embodying these provisions was to be effective until September 1, 1952. Approximately 125,000 workers are covered by the Kellock award, and about 30,000 others make up the running trades.

The railways have estimated the cost of this three cent award at $13 million per year, and it is additional to the four cent increase ($17·8 million per year) granted in the legislation which terminated the strike and provided for the appointment of Mr. Justice Kellock as arbitrator. Accordingly, on December 21 the carriers applied to the Board of Transport Commissioners for: 1) an immediate general rate increase of five per cent from which they expected to derive $17·5 million extra annual revenue; and 2) an increase of an as-yet-unstated percentage to be effective next June 1 simultaneously with the institution of the five-day week. Although the railways thus postponed making an estimate of the cost of this change in the standard week, they had in the wage negotiations preceding the strike mentioned an estimate for a year of $80 million.

FAO IN 1950[1]

S. C. HUDSON[2] and D. H. BURNS

Although the first of the post-war specialized agencies of the United Nations to be created, the Food and Agriculture Organization is only five years old. The fifth anniversary of the establishment of the Organization was fittingly observed at the Special Session of the Conference of FAO held in Washington, November 3 to 11, 1950. At this ceremony, the United States Secretaries of State and Agriculture paid tribute to the accomplishments of the Organization and honored those present who had been associated with the Hot Springs Conference in 1943 or FAO's first conference at Quebec in 1945. The ceremony also served as an official farewell to the Organization, which, in accordance with the decision of the Fifth Session of the Conference in 1949, leaves Washington in March 1951 for its new headquarters in Rome.

The 1950 session was confined to essential business matters. It marked a milestone in the history of FAO—a transition from the idealism of early development to the realism of maturity. The refusal of nations to delegate any of their sovereign authority to FAO, first in connection with John Boyd Orr's World Food Board Proposal in 1947, and again with the International Commodity Clearing House proposed by the Committee of Economic Experts in 1949, raises a question as to the role of FAO in the development and implementation of international policies in food and agriculture. The reduced purchasing power of FAO's fixed income also calls for an early decision regarding its long-term development. The transfer of the headquarters of the Organization with its changed geographical environment has already given rise to problems; the most tangible to date has been the great turnover in staff and the quest for the necessary funds to finance the move.

The Chairman of the 1950 Conference was Professor Andre Mayer of France. The Conference established three working committees: (1) a Committee of the Whole on the Program of Work and Budget for 1951; (2) a Committee on Constitutional Questions, and (3) a Committee on Financial and Administrative Matters.

The number of Member countries in FAO was increased to 66 with the admission to membership at this session of Cambodia, the German Federal Republic, Jordan, Spain and Viet Nam. Poland and Czechoslovakia withdrew their membership, effective in 1951.

---

[1] The activities of the Food and Agriculture Organization have been outlined in previous issues of *The Economic Annalist*.

[2] Secretary, Canadian Interdepartmental FAO Committee.

Organizational Changes.—The Conference approved arrangements for the transfer of FAO headquarters to Rome in March 1951. It was estimated that the removal of headquarters to Rome would cost approximately $1·6 million and arrangements were made for borrowing $800,000 of this amount from the United Nations, repayable over four years. As a consequence of the establishment of the headquarters in Rome, abolition of the European regional office was accepted by the Conference with the recommendation that the technical and co-ordinating services for Europe be retained within the Organization. The creation of the North American Office to serve as liaison with the United States and Canada was approved, and the Director General was authorized to locate other regional offices in Latin America.

Approval was given to plans of the Director-General for administrative reorganization. These included the combining of the Economics and Distribution Divisions, the integration of the Rural Welfare Division under Agriculture and of the Information Division under the Director-General's Office.

The term of office of the six members of the Council of FAO who were scheduled to retire in 1950 was extended for one year. These included Brazil, Canada, Chile, Italy, Union of South Africa and the United States. Mr. N. E. Dodd was reappointed as Director General of FAO until the end of the next regular session of the Conference. Viscount Bruce was also requested to continue as Independent Chairman of the Council of FAO until the end of the next regular session. In this connection the Council was requested to take appropriate steps to present nominations for these posts at the next session of the Conference which will be held at Rome from November 5 to 21, 1951.

Constitutional and Administrative Matters.—A proposed revision of the texts of the Constitution, Rules of Procedure and Financial Regulations was adopted by the Conference, which noted the desirability of having a maximum practical conformity with constitutional and procedural instruments of the United Nations and specialized agencies. Constitutional amendments, in the main, had to do with the change to biennial rather than annual sessions of the Conference. While the Council of FAO had recommended that the term of office for members of the Council be changed from three years to four years, the three-year term was retained. It will, therefore, be necessary to elect 12 members of the Council at each conference session, six to take office immediately and six one year later. Provision was also made for clarifying the procedure with regard to voting.

Administrative and financial matters dealt with such financial policy questions as the level of the working capital fund in 1951 and the scale of contributions, including action with regard to the collection of contributions; staff matters including the application of a cost-of-living differential in Rome, and the staff pension fund.

Program of Work and Budget for 1951.—The Conference authorized the Director General to plan the program of work for 1951 on the basis of an expenditure of $4·5 million in accordance with the budget submitted. Particular attention was given to the principles which should govern the program of work and budget for 1951, 1952 and 1953, and thereafter. The general concensus of the Conference was that with a lapse of five years since the establishment of FAO, it would be advisable to take stock of the Organization's policy and work in the light of past experience. In order to study this question, the Conference requested the Council to appoint a small working party composed of representatives of Member Governments of FAO selected on an individual basis because of their special abilities in the matters under consideration. This working party, as appointed by the Council, consists of selected individuals from Australia, Belgium, Ceylon, Denmark, France, Lebanon, United Kingdom, United States and Uruguay. Member Governments have been requested to study this question and present their recommendations having to do with the Program of Work of FAO and associated long term problems.

Technical Assistance Program.—In considering developments in connection with FAO's participation in the expanded technical assistance program, the Conference noted two obstacles in the progress of technical assistance: (1) Although substantial payments have been made to the technical assistance fund, usable contributions of many countries have not yet been received and (2) many of the recipient countries are not yet fully informed regarding the conditions under which technical assistance may be granted and the obligations which governments themselves are required to undertake under the terms of the General Assembly resolution. The Conference attached the highest importance to the technical assistance program as a complement to the regular activities of FAO and requested the Director General to report to the appropriate sessions of the Council on the program of technical assistance, in order to facilitate a study of this program in relation to the regular program of work of FAO.

Commodity Problems.—The Conference considered the report of the Committee on Commodity Problems which operated under the chairmanship of Dr. G. S. H. Barton, Canada's alternate delegate to FAO. It was agreed that the Committee on Commodity Problems should continue to operate and be regarded as the instrument of FAO to analyse and interpret the international commodity situation and to advise the Council on suitable action. The terms of reference of the Committee were extended to include all commodity problems falling within the competence of FAO, whether arising from balance of payment difficulties or from other causes. Membership in the Committee will continue to include Australia, Brazil, Canada, Cuba, Egypt, France, India, Indonesia, Italy, Netherlands, Pakistan, United Kingdom, United States and Uruguay. Following a discussion of the location of the Committee headquarters, it was agreed that the headquarters should be moved to Rome at the time of the transfer of the Organization.

International Plant Protection Convention.—The Conference considered a draft of the International Plant Protection Convention and endorsed continued national and international action to bring about the necessary plant protection measures as envisaged by the proposed convention. It was noted however that a number of governments desired further time to consider details of the proposed convention and to suggest some amendments. It was therefore recommended that Member Governments submit to the Director General their comments with respect to the draft convention and any suggestions with regard to amendments which might be considered necessary to make the convention acceptable. It was also requested that further consideration be given to the amended draft, having in mind the desirability of taking action on the convention at the 1951 Conference of FAO.

Canada's civilian noninstitutional population 14 years of age and over was estimated at 9,751,000 for the week ended November 4, 1950, an increase of 141,000 over the estimate of 9,610,000 for the week ending October 29, 1949. Between the same dates the civilian labour force remaining virtually unchanged at about 5,200,000.

But there was some shift in the pattern between the agricultural and non-agricultural sectors. There was a reduction of 84,000 in the agricultural labour force (from 1,058,000 to 974,000) which counter-balanced an increase of 85,000 (from 4,142,000 to 4,227,000) in the non-agricultural labour force.

As compared with October 1949, this survey shows a higher proportion of persons with jobs. Persons in this category increased from 5,053,000 for the week of October 29, 1949, to 5,084,000 for the week of November 4, 1950, and as a percentage of the total labour force rose from 97·7 per cent. At the same time, "persons without jobs and seeking work" dropped from 147,000 to 117,000, i.e., from 2·9 per cent to 2·3 per cent of the labour force, or from 3·9 per cent to 3·1 per cent of the paid workers in the labour force.

The increase in the number of persons with jobs can be attributed wholly to expanding job opportunities in non-agricultural industries. As a matter of fact, "persons with jobs" in agriculture were 79,000 fewer in November 1950 than in October 1949 while job-holders in non-agricultural industries had increased by 110,000.

The high level of non-agricultural civilian employment is attracting more married women to jobs outside the home. Married women with non-agricultural jobs numbered 283,000 in November 1950 compared with 266,000 in October 1949, an increase of 17,000.

REVIEW OF LITERATURE

Some Economic Aspects of Farming in Alaska (with Chief Attention to the Matanuska Valley). January 1950. pp. 89; and

Markets for the Products of Cropland in Alaska. July 1950. pp. 50. United States Department of Agriculture, Bureau of Agricultural Economics co-operating with Alaska Experiment Station, Washington, D.C.

These two reports are complementary and the reader is urged to study both for a more complete understanding of the agricultural and economic problems involved. Both are progress reports and are part of a series of studies to ascertain the basis and the extent of Alaska's agricultural future. They were prepared for general distribution to supply, in part, the demand for factual information regarding farming and the market for farm products in Alaska.

The report on farming is based mainly on a survey made during the summer of 1943 covering the 1947 operations of most of the farmers in the Matanuska Valley. The information obtained from this source has been presented in detail in the latter part of the publication. The first nine pages provide an excellent summary of the inter-related production and marketing aspects, with particular attention being devoted to the physical limitations of farming in the different areas of Alaska. Consideration is given to market possibilities and to the sources of supplies that compete with those that are produced in the area. The conclusion reached is that there are opportunities for judicious expansion of certain types of farming in Alaska at the present time.

The settlement in the Matanuska Valley was directly sponsored by the United States government. This was likely a necessary step in any sizeable agricultural development in Alaska as the area is relatively isolated compared with pioneer areas in Canada which are mostly on the fringe of older established agricultural areas. This study is similar in some respects to the series of studies carried out in pioneer farming areas in Canada. These include studies of land settlement mainly and they are generally confined to a consideration of the physical and economic factors related to production.

The report on markets for the products of cropland in Alaska is primarily an attempt to measure the potential demand for each product produced locally and to determine the acreage needed to obtain this production. The results indicate that, until there is a large increase in population, any public agencies in position to aid the development of new cropland in central Alaska should concentrate their activity in present settlement areas that have transportation to market.

Studies have been made in northern areas in Canada including the markets in the northern parts of Ontario, Quebec and British Columbia. These areas differ from Alaska in that they are close to outside markets, and that some agricultural produce, mostly livestock, is shipped out of the areas.

Schultz, Theodore W. *Production and Welfare of Agriculture.* New York, The Macmillan Co. 1949, pp. xi + 225.

This book is divided into four parts entitled: *Objectives of Policy; Efficiency, Stability, and Progress; Economic Development and Policy;* and *International Economic Policy.* Although much of the material appearing in this book has been published previously by the author in the form of articles, it merits careful re-reading.

The book is a study of American agricultural policy in which Schultz tries,

> To isolate and make explicit the objectives that have guided policy since World War I, and, to indicate in this connection the stress that has been placed upon equality for agriculture, income, prices, and upon the family farm as a social and economic institution.

Considerable space is given to the policy implications of certain basic changes occurring within the existing economic structure as a result of,

> The decline of agriculture, the achievement of a high level of industrial employment and output, the reduction of capital rationing within agriculture and the much enlarged scope of public programs and their administration.

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS
FRANK SHEFRIN, Editor

APRIL 1951 **Vol. XXI, No. 2**

CONTENTS

Page
The Economic Situation 27
Canadian Agriculture at the Middle of the Century— . . . . J. F. Booth 29
National Production and National Income, 1926-1950 34
Railway Freight Revenue and Traffic Patterns from Waybill Analysis . . . . E. P. Reid 40
New Publications by the Economics Division 44
Review of Literature 46

MARKETING SERVICE, ECONOMICS DIVISION
J. F. BOOTH, Chief

Published by Authority of the Right Honourable James G. Gardiner, Minister of Agriculture

ANNUAL AND MONTHLY INDEX NUMBERS (a)

Wholesale Prices, Farm Prices and Living Cost Indexes

Year	Wholesale Prices 1935-39=100			Farm Prices of Agricultural Products 1935-39=100	Commodities and Services used by Farmers 1935-39=100		Cost of Living 1935-39=100	
	(b) Farm Products	(c) Field Products	(d) Animal Products	(e)	(f) Equipment & Materials	(g) Eleven Factor Index	(h) Farm Living Costs	(i) Urban Living Costs
1913	...	...	...	...	85·4	...	80·1	79·1
1914	...	...	...	...	90·2	85·3	82·3	79·7
1915	...	...	...	...	96·9	91·6	86·5	80·7
1916	...	...	...	...	101·7	100·5	93·7	87·0
1917	...	...	...	...	140·7	140·5	111·5	102·4
1918	...	...	...	...	164·1	160·2	131·1	115·6
1919	...	...	...	...	169·1	167·9	143·0	126·5
1920	...	...	...	...	190·1	186·5	171·3	145·4
1921	...	...	...	...	147·4	152·5	139·9	129·9
1922	...	...	...	...	124·6	134·1	127·9	120·4
1923	...	...	...	...	118·3	130·6	128·3	120·7
1924	...	...	...	...	122·3	131·9	125·5	118·8
1925	...	...	...	...	123·2	131·8	123·9	119·8
1926	144·4	158·5	130·2	...	119·9	130·6	121·1	121·8
1927	138·6	149·4	127·8	...	119·9	131·2	119·8	119·9
1928	136·3	134·3	138·2	...	118·3	129·3	118·5	120·5
1929	140·8	137·2	144·4	...	117·6	127·9	117·3	121·7
1930	119·5	105·8	133·3	...	105·6	117·0	113·7	120·8
1931	78·9	65·0	92·7	...	92·2	100·9	103·9	109·1
1932	65·5	60·4	70·5	...	89·3	93·3	97·8	99·0
1933	69·3	69·3	69·2	...	88·8	89·8	95·8	94·4
1934	83·5	80·5	86·5	...	96·8	95·5	97·9	95·6
1935	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	165·3	160·4	170·2	185·7	125·9	152·1	123·2	119·5
1946	177·0	172·9	181·2	204·1	128·0	157·0	127·1	123·6
1947	189·7	179·1	200·2	215·8	139·5	170·4	138·3	135·5
1948	229·6	195·6	263·7	255·8	173·1	196·9	162·8	155·0
1949	225·2	184·9	265·4	255·4	180·3	201·8	173·2	160·8
1950	...	...	...	255·2	...	...	...	...
1950								
Mar.	224·8	183·6	266·0	252·4	...	...	...	163·7
April	226·8	185·6	268·0	254·7	191·0	209·7	176·7	164·0
May	229·6	186·3	272·8	255·5	...	...	...	164·0
June	238·8	188·6	289·1	264·1	...	...	...	165·4
July	242·2	188·0	296·3	268·2	...	...	...	167·5
Aug.	236·3	174·2	298·5	261·3	194·3	218·7	180·7	168·5
Sept.	234·9	172·6	297·1	256·3	...	...	...	169·8
Oct.	228·5	170·2	286·9	248·8	...	...	...	170·7
Nov.	230·4	170·3	290·5	251·4	...	...	...	170·7
Dec.	234·5	170·6	298·4	256·0	...	...	...	171·1
1951								
Jan.	242·2	173·5	310·9	261·4	201·0	216·9	184·1	172·5
Feb.	253·7	177·9	329·6	271·9	...	...	...	175·2

(a) Revised each issue.

(b) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo.) Ottawa, Monthly Wholesale prices of products of Canadian farms.

(c) Ibid (b). Wholesale prices of grains, hay, tobacco and potatoes.

(d) Ibid (b). Wholesale prices of animals and animal products.

(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo.) Ottawa, Monthly.

(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Number of Commodities and Services Used by Farmers.* (Mimeo.) Ottawa, Jan., Apr. and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.

(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.

(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.

(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

THE ECONOMIC SITUATION

Economic activity in Canada continues to increase. The expansion of production for defence and the steady pressure of a strong demand for consumer goods is resulting in a high level of output, employment and income. At the same time federal legislation is being introduced: first, to assist in attaining the desired allocations of goods and manpower among defence and non-defence needs; and second, to combat inflation.

Although the full impact of the defence program is yet to come, the general level of output of goods and services is higher than a year ago. Canadian steel mills turned out record tonnages of steel ingots in January 1951. The month's output amounted to 299,410 net tons as compared with 283,894 in January last year. Previous peak total was 287,885 tons in March 1949. The daily average output for January also reached a high total of 9,658 net tons compared with 9,158 a year earlier, and compares with 9,286 in March 1949.

Factory shipments of Canadian-made motor vehicles continued at a high level in January, the total rising to 39,204 units —a new high for the month—as compared with 30,738 in December and 28,527 in January last year. The month's shipments were close to the monthly peak totals of 41,383 units in June and 40,131 in July last year.

Department store sales rose 21 per cent during the week ending February 24 as compared with the corresponding week last year, according to preliminary figures.

Cheques cashed against individual accounts reached $9,001,541,000 in January this year—a new peak for the month —as compared with the previous high of $7,307,022,000 in January 1950. Advances were recorded for each of the five economic areas.

Prices and the cost-of-living have also continued to rise. Canada's official cost-of-living index rose from 172·5 to 175·2 between January 2 and February 1, 1951, the increase being largely due to higher prices for foods, clothing and home furnishings. From August 1939 to February 1951, the increase in the cost-of-living index was 73·8 per cent.

Exports.—The outstanding developments in Canada's foreign trade in 1950 were a pronounced shift in the direction of exports and a sharp increase in the value of imports. Such factors as trade controls, changed purchasing policies, and increased domestic production in overseas countries acted to reduce overseas purchases of Canadian goods, while high economic activity in the United States stimulated sales to that country. This pattern in export sales is being continued in 1951.

Canada's total domestic exports in January were valued at $285,100,000, an increase of 29 per cent over last year's corresponding total of $221,200,000. The total for January compares with $289,900,000 and $292,700,000 for December and November last year, respectively, and contrasts with the decline in last year's January value from $285,500,000 and $292,300,000 for December and November, 1949. January shipments to the United States increased nearly 43 per cent to $186,948,000 from $130,859,000 in January 1950. Domestic exports to the United Kingdom in January continued the downward trend of 1950, declining in value to $40,054,000 as compared with $48,608,000 in January a year ago. The value of January shipments, however, was slightly higher than the monthly average in 1950.

Agriculture.—Prices of farm products at the farm and wholesale level are somewhat above those during the same period in 1950. The major increase occurred in grains, when the Canadian Wheat Board announced increases in initial prices of wheat, oats and barley. In the case of cattle, although receipts on Canadian markets were not unduly heavy, prices of slaughter cattle settled downward by the end of February from the high points reached in mid-February. This is consistent with the levelling out of wholesale beef prices in the United States due to consumer resistance and to the possibility of controls being applied to meat prices. Butter prices rose during March.

To minimize price fluctuations, the Agricultural Prices Support Board has announced support prices for hogs and eggs. The butter program, as announced last year, is still in operation.

The federal government has also announced the final settlement under the five-year wheat pool. The Prime Minister, in the House of Commons on March 2, 1951, stated,

> The government has decided to recommend to parliament that an amount equal to the balance of the United Kingdom credit, namely,

> $65 million, be added to the sums now awaiting distribution in settlement of the five-year pool. . . . The contribution we will be asking parliament to make is the equivalent of about 23 cents per bushel on the deliveries made during the last two years of the agreement to which article 2(*b*) had reference. The addition of $65 million to the pool would make a total of approximately $120 million for distribution. On the basis of deliveries of 1,428 million bushels during the period of the five-year pool, this would provide a final payment of about 8·3 cents per bushel.

Federal Legislation.—The current international situation has necessitated action designed to strengthen Canada's economic and military position. The need for new legislation is set out in the first paragraph of the preamble of The Emergency Powers Act:

> . . . it is essential that emergency powers be conferred to enable measures to be taken as urgently required from time to time to carry out adequate defence preparations, to regulate the economy of Canada to meet the needs of defence and to stabilize the economy and to safeguard it from disruption that may result from defence preparations in Canada or from emergency measures taken in other countries, in order that defence preparations may not be impeded;

The Emergency Powers Act.—The Prime Minister, in introducing this Act, said:

> I have indicated that the emergency powers sought by this legislation will mean, as does the War Measures Act whenever it is in force, a potential departure from the normal distribution of powers under our federal constitution to the extent that that departure may be deemed necessary for the safety of the state.

The Act authorizes the doing of some of the things which were done during the last war under the War Measures Act. In dealing with the powers of the governor in council, the Act states

> The Governor in Council may do and authorize such acts and things, and make from time to time such orders and regulations, as he may by reason of the existing international emergency deem necessary or advisable for the security, defence, peace, order and welfare of Canada; and for greater certainty, but not so as to restrict the generality of the foregoing terms, it is hereby declared that the powers of the Governor in Council shall extend to all matters coming within the classes of subjects hereinafter enumerated.

The Act, as passed, is to expire on May 31, 1952, unless renewed by Parliament.

The Defence Production Act.—The Minister of Trade and Commerce, in dealing with the bill, said:

> The bill before the house is designed to do three things. In the first place, it will establish a department of defence production. Second, it would confer powers on the minister with respect to procurement very similar to those formerly held by the minister of munitions and supply. Third, it would confer powers on the governor in council and on the minister to control essential materials in substantially the same terms as the present Essential Materials (Defence) Act. It is proposed that the act would expire on July 31, 1956.

An Act to Amend the Export and Import Permits Act 1947.—This amendemnt extends the life of the Act until sixty days after the opening of Parliament in 1953.

Consumer Credit.—Under the authority of the *Consumer Credit* (Temporary Provisions) *Act, 1950,* the Minister of Finance, on March 14, imposed a new set of credit restrictions amending those of November 1, 1950. These became effective on March 19.

The Minister of Finance stated in the House of Commons on March 14,

> . . . there have been discussions recently between the Bank of Canada and the chartered banks regarding the most effective means of restraining the inflationary expansion of bank credit. As a result of these discussions one of the steps the chartered banks have taken is to call a halt to further expansion of loans on the security of instalment finance paper.
>
> In conjunction with this move, and with the same purpose of restraining inflationary credit expansion, the consumer credit regulations have been amended.
>
> In their net effect the new regulations will be much stiffer than those now in effect, but except in the case of motor cars they will be no stiffer, and in some cases not quite so stiff as those in effect during the war . . . In the case of other commodities our new regulations require one-third down and the balance over twelve months. During the war the same down payment was required, but the balance had to be paid in ten months, unless the amount to be financed exceeded $500.

Agricultural Legislation.—1. An Act to amend The Farm Improvement Loans Act, 1944. The operations of the Act were extended for a further period of three years, to February 28, 1954. Other major amendments are: first, a restriction of credit; and second, the inclusion of a provision for credits for the purchase and planting of fruit trees.

2. An Act to amend the Canadian Wheat Board Act, 1935. The major amendments are: first, provision of some latitude to the governor in council in adjusting initial payments within the crop year as between grades of wheat, oats and barley; and second, gives the governor in council power to authorize the transfer of unsold grain from one pool account to the next pool account for the purpose of winding up the earlier account and permitting a final payment as soon as possible after the end of each crop year.

CANADIAN AGRICULTURE AT THE MIDDLE OF THE CENTURY[1]

J. F. Booth

In 1905 it was said by a Canadian statesman that the twentieth century would be the century of Canada. There was both a prophecy and a challenge in that observation. At that time agriculture was relatively more important than it is today; nearly two-thirds of the population were classified as rural and about 40 per cent of the gainfully employed were engaged in farming. The value of farm products was more than half the combined total of manufactured products, mineral, fishery and forestry products. Today the rural population is in the minority and of the working force less than a quarter is employed in agriculture. The value of the aggregate production of the industries mentioned is about four times that of the farms of Canada. This is the inevitable development of a young country richly endowed with a variety of natural resources. Agriculture is still one of our most important industries, however, and in some respects more important today than at the beginning of the century. As we enter the second half of the century it may be worthwhile for us as representatives of that industry to take a backward look at what has taken place during 50 years. Perhaps what we see may encourage us to look into the future as well.

Table 1.—Gross Value of Agricultural Production in Canada

Year	Gross Value (a) of Production	Index of Wholesale Prices of Farm Products 1926=100	Value of Production in Constant Dollars
	million dollars		million dollars
1901	364	48·1	758
1911	752	61·7	1,175
1921	1,386	103·7	1,337
1926	1,650	100·0	1,650
1931	836	56·3	1,486
1941	1,379	72·8	1,895
1942	2,119	85·0	2,493
1943	2,244	97·9	2,292
1944	2,591	107·1	2,419
1945	2,517	114·9	2,191
1946	2,688	124·4	2,161
1947	2,909	132·9	2,189
1948	3,405	149·7	2,274
1949	3,066	147·0	2,086

(a) Gross Value represents cash income plus income in kind and the value of changes in inventories. Information provided by the Agricultural Division, Dominion Bureau of Statistics.

First, however, let us consider some information of a general nature. It will help to provide a setting for our discussion.

Canada entered this century with a population of 5·4 million people. We now have just short of 14 million. Even without the addition of Newfoundland the population has increased to more than two and one half times that of 1901. Since 1901 we have expanded the frontiers of Canada from the area of the St. Lawrence and the Maritime Provinces to the vast plains of the West, to the Pacific region and to the far north. The value of the output of our farms has grown from $364 million to $3,066 million (Table I). The products of our forests have increased from $33 million to $964 million, our mines from $66 million to $820 million and our fisheries from $26 million to $140 million. In the output of many of these products we have become the world's largest producers. Our most spectacular development, however, has occurred in manufacturing. Here our growth has been from $480 million to $11,800 million.[1]

---

[1] An address given in the lecture series of the Agricultural Graduates Association, University of Saskatchewan, Saskatoon, Jan. 8, 1951. Part II will appear in the June issue of *The Economic Annalist*.

We have greatly expanded our transportation facilities and means of communication; added extensive services in the fields of merchandising and distribution. We have developed power resources on an immense scale and increased the annual volume of construction contracts from $345 million in 1911 to $954 million in 1948.

During this half century the efforts of our people applied to the extensive resources at their command have resulted in a volume of output greatly in excess of our own needs. Accordingly, our export trade has increased from $177 million to $3,075 million. Imports have increased at a similar rate and as a result we have become one of the principal trading nations of the world.

These are the material things. They are easily measured, and even with due allowances for changing prices they indicate impressive progress in the period of half a century by a nation which in terms of population is still relatively small. An appraisal of our contributions in the non-material sense is more difficult, particularly for one trained to deal with material things. It is known, however, that we have received some recognition for our contributions to science, medicine, law, literature and art and we believe that we have done some things that are worthwhile in the fields of education, social services and government.

Table 2.—Total Value of Agricultural Production and Production per Farm in Canada

Year	Value of Production in Constant Dollars (a)	Number of Farms	Production per Farm	Index of Production per Farm
	millions		dollars	
1901	758	511,073	1,483	100·0
1911	1,175	682,329	1,722	116·1
1921	1,337	711,090	1,880	126·8
1931	1,486	732,623	2,028	136·7
1941	1,895	732,832	2,586	174·4
1946	2,161	706,009	3,061	206·4

(a) Gross value of agricultural production divided by the index of wholesale prices of farm products, 1926 base.

These things have not been achieved without difficulty, stress and strain. Progress has not been uniform. We have experienced severe economic reverses and much financial distress at times. But we have emerged from these with increased vigour and greater knowledge of economic affairs.

The developments thus briefly outlined have turned the attention of other people toward Canada. As a result millions have been attracted to our shores (though many have also left in the periods of economic distress) and others have invested their capital in our resources and industrial development. It is one of the quirks of fate, however, that our greatest recognition in the international field has come as a result of other developments.

In the period under review we have participated in two world wars. In each our status as a nation has been greatly enhanced. Our contributions of manpower, and of food, armaments, ships and aeroplanes were of such magnitude as to win the appreciation of our allies and the goodwill of people in many countries. The extension of financial aid and the sharing of resources during and following the last war are other contributions to our credit. Because of these things and because men capable of taking their places in the councils of nations have emerged from our institutions and form of government, Canada today is receiving increasing recognition in the realm of international affairs.

---

[1] Statistical data appearing in this section, except those for agriculture, are from the "Statistical Summary of the Progress of Canada" appearing in the 1950 edition of the *Canada Year Book*. The most recent information is for 1948. Information on the volume of agricultural production was furnished by the Dominion Bureau of Statistics.

Agricultural Development.—Turning now to agriculture let us consider in some detail the developments of the past 50 years. In 1901 we had 511,073 farms, and in 1946, 706,009, a gain of nearly 200,000 farms (Table 2). Most of the growth occurred in the Prairie Provinces where in a period of three decades a vast area of land was brought under settlement. The story of that epic development is not revealed in the statistics of net increase. Between 1905 and 1927 in the Prairie Provinces a total of 455,091 homesteads were acquired. To this must be added 62,564 entries in Manitoba prior to 1905. But only 59 per cent of the area involved—99 million acres—was patented or remained under homestead entry in 1930. There was thus very heavy abandonment. The west was not won without heavy casualties.[1]

Table 3.—Total Volume of Agricultural Production and Production per Gainfully Employed Worker

Year	Value of Production in Constant Dollars	Number of Workers Gainfully Employed	Value of Production in Constant Dollars per Worker	Index of Production per Worker
	millions			
1901	758	716,860	1,057·4	100·0
1911	1,175	933,735	1,258·4	119·0
1921	1,337	1,041,544	1,283·3	121·4
1931	1,486	1,131,845	1,312·9	124·1
1941	1,895	1,083,816	1,748·4	165·3
1942	2,493	1,127,000	2,211·6	209·1
1943	2,292	1,103,000	2,078·1	196·5
1944	2,419	1,126,000	2,148·3	203·2
1945	2,191	1,134,000	1,932·1	182·7
1946	2,161	1,274,000	1,696·2	160·4
1947	2,189	1,163,000	1,882·1	177·9
1948	2,274	1,186,000	1,917·4	181·3
1949	2,086	1,123,000	1,857·1	175·6

Source: 1901—1941 Census of Canada; 1942—1949 Labour Force, Dominion Bureau of Statistics.

The value of farm property has increased from $1,787 million to $7,512 million since 1901 (Table 4). Land and buildings which represent the largest share of total value have increased less and have shown more variability over the years than the other components, machinery and livestock (Table 8). It is significant, as will be noted presently, that the value of machinery on farms in 1949 was nearly ten times that of 1901. But even after allowing for changes in value—and these are farm values not retail prices—it will be apparent that the volume of machinery on farms has greatly increased.

The total area in farms has nearly tripled and the area in improved land has more than done so since 1901 (Table 5). The average size of farm has roughly doubled but most of the increase has occurred on prairie farms. Increases in the eastern provinces have been around 25 per cent or less.

The acreage in field crops has shown the most significant change, the acreage in 1949 being about three and one-half times that of 1901. Here again provincial differences are noticeable. In Saskatchewan the acreage has more than doubled since 1911. A substantial increase is also shown for Quebec but in Ontario the acreage in field crops was almost the same in 1949 as in 1901.

---

[1] Morton, Arthur S. and Martin, Chester. *History of Prairie Settlement and Dominion Lands Policy.* Toronto, The Macmillan Company, 1938. pp. 429-31.

Table 4.—Value of Farm Capital in Canada

Year	Total	Land	Buildings	Implements and Machinery	Livestock
	million dollars				
1901	1,787	1,007	395	109	275
1911	4,232	2,520	824	257	631
1921	6,555	3,671	1,382	665	836
1931	5,248	2,710	1,343	651	544
1941	4,241	1,953	1,077	596	616
1949	7,512	5,041		1,009	1,462

Source: 1901-1941 Census of Canada; 1949—Quarterly Bulletin of Agricultural Statistics, April-June 1950.

In livestock numbers the most significant changes have been a decline in horses of 45 per cent from the high point and an increase in numbers of pigs of more than 100 per cent—200 per cent if the figures of the last war period are used. Sheep, too, have declined in numbers while cattle show substantial increases.

These increases in the numbers of farms, size of holdings and numbers of livestock have of course been reflected in greatly increased production. As already noted the gross value of agricultural production was $3,066 million in 1949 compared with $364 million in 1901. When the effect of price changes is removed the result becomes a rough measure of physical volume of production. This computation (Table 1, column 4) reveals that in 1949 production was about 150 per cent above the 1901 level. During World War II the increase amounted to 200 per cent. Related to the number of farms and the number of workers on farms these data indicate that output per farm has about doubled and the output per worker has risen by 65 to 70 per cent. This latter figure was up by almost 100 per cent during the last war.

A large part of the greater output of Canadian farms is due to the increased size of holdings already mentioned. It cannot be said, however, that because farms are twice as large in terms of acreage now as in 1901 one should expect twice the production. The fact is that the higher yielding farms of eastern Canada have increased less than 25 per cent in size while farms in the West where average yields of crops such as grains are lower, have doubled and trebled in size.

The larger output is in fact partially attributable to greater emphasis on higher income producing products—livestock products and fruits and vegetables—and larger output per acre and per animal unit. An average annual production of 4,637 pounds of milk per cow in 1949 compared with 2,858 in

Table 5.—Number of Farms, Size of Farms and Acreage of Improved Land

Census Years	Number of Farms	Area in Farms	Average Area per Farm	Area of Improved Land per Farm	Average Area of Improved Land per Farm
		acres	acres	acres	acres
1871	367,862	36,049,406	98	17,335,818	47
1881	464,025	45,044,034	97	21,371,148	46
1891	620,486	53,933,926	87	28,405,571	46
1901	511,073	63,422,338	124	30,166,033	59
1911	682,329	108,968,715	160	48,733,823	71
1921	711,090	104,887,903	147	70,769,548	99
1931	732,623	163,114,034	223	85,732,172	117
1941	732,832	173,563,282	237	91,636,065	125
1946	706,009	170,972,416	242		

1901 may represent a greater increase in efficiency than has occurred generally throughout agriculture but the yields of many crops and the production of different classes of livestock have been increased, in many instances appreciably.

The larger farms of today are being handled by approximately the same working force per farm as prevailed 50 years ago. Considering the country as a whole there was an average of 1·40 gainfully employed persons per farm in 1901 and 1·47 in 1941. It is noteworthy, however, that in Quebec the working force has increased from 1·39 to 1·64.

Labour and management have become more efficient. Of that there is little doubt. Not only has the output per farm and per worker greatly increased but it is probable that the working day averages less now than 50 years ago. The greater efficiency results, in the main, from increased mechanization, the application of the findings of science and generally better management. These things have made workers more productive; but the ability of the workers to use these aids to production indicates the attainment of skill and knowledge not possessed by farmers and farm workers a generation ago.

As regards the importance of mechanization both in its income-producing and its investment or cost aspects, it should be noted that about 13·5 per cent of the value of farm capital in 1949 was made up of machinery as against 6 per cent in 1901. The investment in machinery today is about equal to that in buildings (and much more in some areas), whereas in 1901 it was less than one-third.

The most significant aspect of mechanization, however, is its unequal application and effects. While mechanization has been the chief factor in raising the number of acres of field crops that a worker can handle for Canada as a whole from 24·6 in 1901 to 53·4 in 1949, most of this improvement has taken place on the prairies. There has been little or no change in other important farming areas. In Ontario a worker in 1901 handled 30·1 acres: in 1949 the figure was 32·3. In Quebec the corresponding figures were 24 and 23·8. The areas are not producing the same crops, it is true, but that does not greatly change the result. Are these farms too small, inefficient in organization or layout to use modern machinery, or have the manufacturers of machinery failed to adapt their product to the needs of such farms? Progress is being made on this matter but farmers and machine companies face a challenge here.

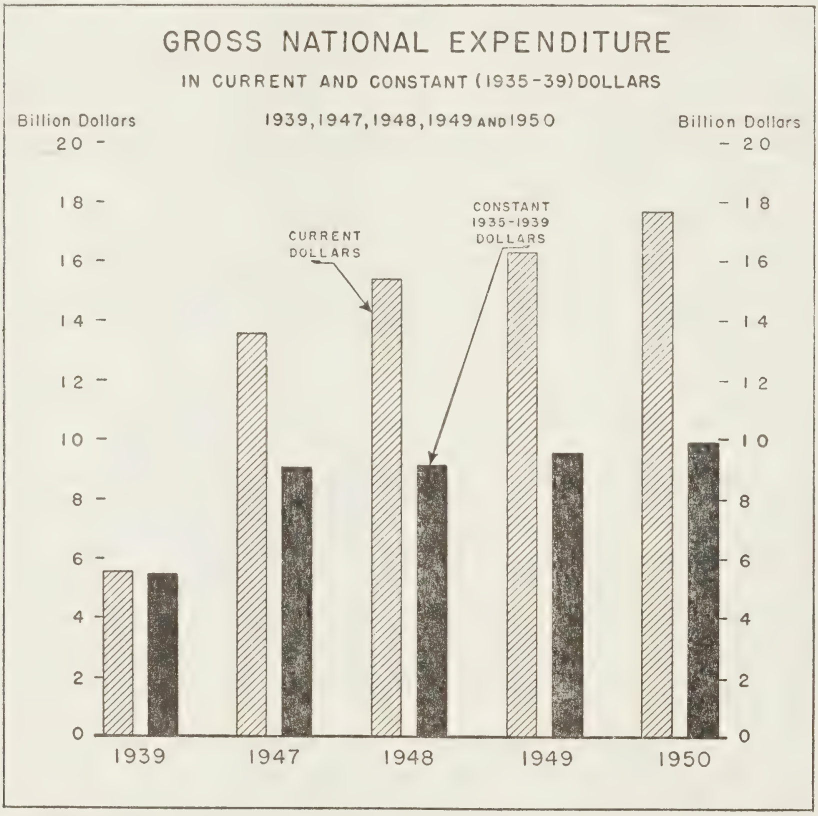
It is probable that most people credit mechanization with having brought about the larger part of the increased output mentioned. It is by no means certain, however, that that is so. It may well be that the advances resulting from experimental and scientific research have been more significant.

Number of new dwelling units completed in Canada (excluding Newfoundland) in 1950 was slightly lower than in 1949, while the number of starts was larger, according to preliminary estimates by the Dominion Bureau of Statistics in co-operation with the Central Mortgage and Housing Corporation. The carryover of dwellings in various stages of construction at the end of the year was consequently somewhat greater than a year earlier.

New units completed during the year totalled 87,299 in the nine provinces as compared to 87,533 in 1949, and starts numbered 90,441 as against 89,509. The number under construction at the year end was 58,850 compared to 58,169. Including Newfoundland, for which comparable 1949 figures are not available, completions for all Canada numbered 89,015, starts 92,531, and the carryover was 60,538 units.

NATIONAL PRODUCTION AND NATIONAL INCOME[1] 1926-1950

The Gross National Product in 1950 totalled $17·7 billion, an all-time high for Canada. The G.N.P., as it is generally referred to, is the dollar value of the national production of goods and services, including the value of all new finished capital, consumer goods and services, government goods and services, as well as any net increase or reduction of inventories, and the excess of exports over imports. The G.N.P. is published annually in Canada's national accounts and provides a useful framework for analysis of changes in business and economic activity.



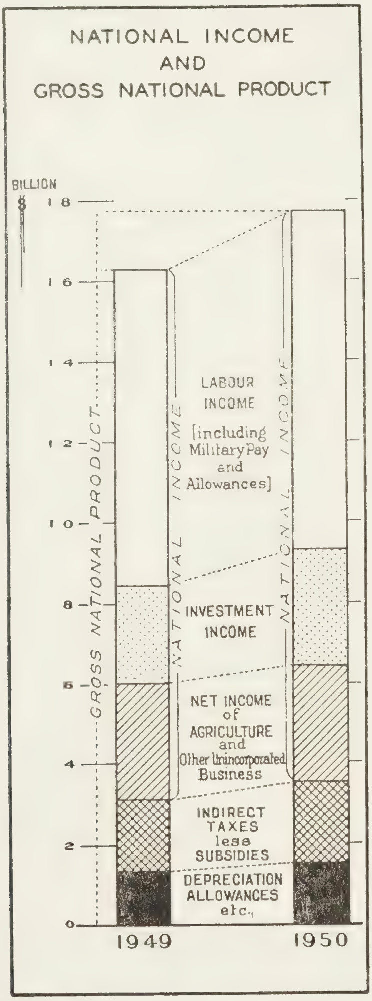
Gross National Product.—The G.N.P. shows the value of production of the whole economy at market price. But it does not represent the net economic gain realized in the process of production. Current production has been able to take place only by using capital goods that were produced in the past. That production over and above the capital consumed will more nearly reflect the net gain that has occurred through production. The G.N.P., less capital consumption or depreciation allowances, represents the net gain to the economy during the current period, since it shows market value of the output that exists over and above the market value of the capital goods used up. It represents what would remain if all the capital goods used up were replaced out of the total gross national product.

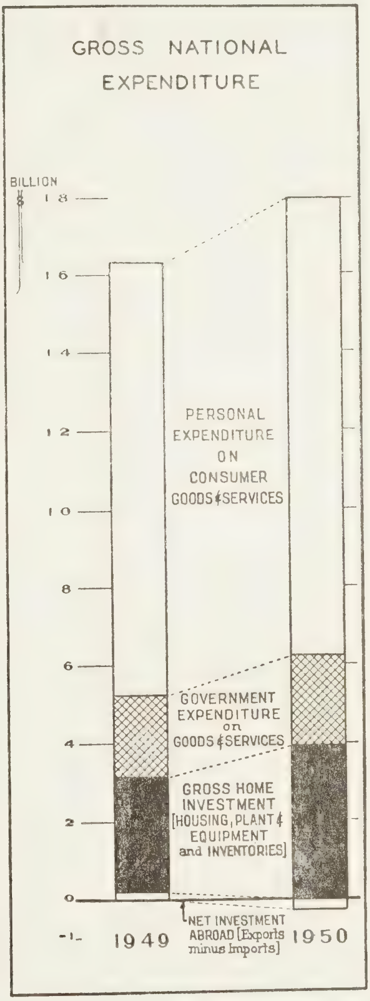
---

[1] The Editor, in preparing this brief review of production and income, has drawn freely on the following reports: (1) *National Accounts, Income and Expenditure*—annual reports issued by the National Income Unit, Dominion Bureau of Statistics; (2) "The Development of National Accounts in Canada," by Simon Goldberg, *Canadian Journal of Economics and Political Science*, Vol. XV, No. 1, February 1949; (3) *Report of the Royal Commission on Prices*, Vol. II, 1949; (4) *Investing in Economic Development*—an address by J. E. Coyne, Deputy Governor of the Bank of Canada to the 57th annual meeting of the Canadian Life Insurance Officers' Association, May 17, 1950. The charts were prepared by the National Income Unit, Dominion Bureau of Statistics. For a detailed exposition of national accounts, study should be made of reports issued by the National Income Unit of the Dominion Bureau of Statistics.

The income components in the G.N.P. total include salaries, wages and supplementary labour income (including military pay and allowances), investment income, and net income of unincorporated business (including agriculture). These make up the national income.

The value of the total output (or G.N.P.) may increase from year to year in three principal ways. First, it may increase because prices are rising, but without more goods or services being produced. When the resources of the economy are fully employed the volume of new goods and services produced can only increase slowly from one year to the next. A rapid rise in the value of output under these conditions is due mainly to prices. Second, a rise in the value of output may reflect the increased goods obtained from using more labour and capital. When there are many unemployed resources in the country, even though prices remain stable, a substantial increase in the value of output of goods and services can occur from one year to the next by bringing into employment the unused resources. Third, a rise in the value of output may take place when the economy uses the same amount of labour and capital more efficiently. This is a reflection of long-run gains in productivity and technological progress.





A review of Canada's national accounts shows that by contrast with the 1930-38 era, which was characterized by relative inactivity, the period since 1939 has witnessed a dynamic growth of the Canadian economy. Under the impetus of war-time demands and post-war accumulated needs, the Gross National Product, in value terms, increased by 216 per cent from 1939 to 1950. Part of this increase was due to price increases but, even after allowing for the increase of 73 per cent in prices in this period, there remains a marked expansion in real output of goods and services.

Rising production was accompanied by correspondingly high earnings in the 1939-50 period. Labour income increased from $2,583 million to $8,300 million and investment income from $783 million to $2,852 million. Net income of farm operators[1] increased from $461 million to $1,424 million and other unincorporated businesses from $430 million to $1,451 million.

In reviewing the 1926-50 period it is interesting to note that salaries and wages, including military pay and allowances, fluctuate less than investment income, reflecting the volatility of profits as compared with salaries and wages.

Gross National Expenditure.—What is produced must either be sold at home or abroad or added to inventories. Thus, the annual output of Canadian labour and capital can be measured another way, by adding together all final sales adjusted for changes in inventories. Four main classes of sales can be readily distinguished; sales to consumers; sales to governments; sales to business on capital account (capital formation in Canada); and sales to non-residents (exports). Only final sales are included; sales between businesses of raw materials and other intermediate goods are not included as such because they are accounted for in the market values of the end-products sold. For example, the market price of an automobile sold to a consumer by Firm A includes the value of tires bought from Firm B. The value of these tires is only counted once, in the market price of the automobile. However, a tire purchased by a person to replace an old one is counted as an end-product. Since total sales include the value of imported goods and services and since the purpose is to measure the production of Canadian labour and capital, imports of goods and services are deducted from the grand total of sales. The aggregate or total obtained in this manner is called Gross National Expenditure and its components indicate the disposal of the nation's output or the G.N.P.

Thus the G.N.E. measures the same total as the G.N.P., but in a different manner. Therefore in the national accounts the G.N.E. is always equal to the G.N.P.

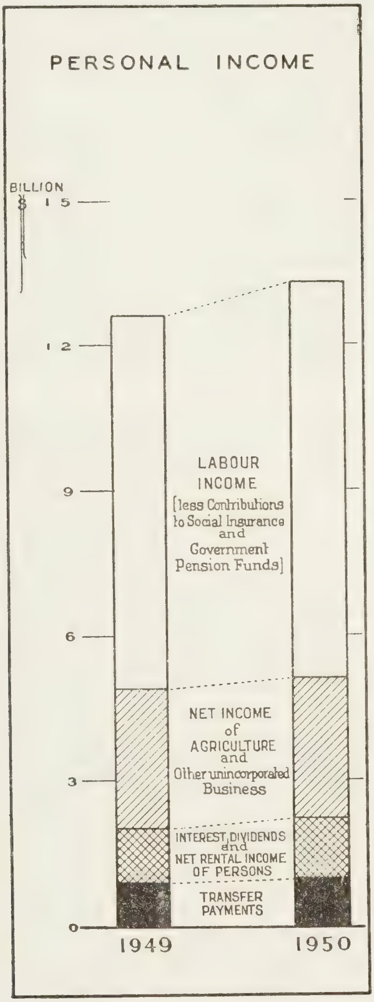
The largest component of the G.N.E.[2] is consumer spending and is determined by the purchasing power represented in that portion of personal incomes remaining after deduction of taxes. However, this "disposable consumer income" may be spent or saved. There are many factors influencing individual saving habits and in the aggregate these may at any one time significantly alter the relationship between spending and saving which will, in turn, influence the demand for goods and services. Personal expenditure on consumer goods and services, the largest component of Gross National Expenditure, changes much more slowly through the course of the business cycle than either investment or external trade; thereby exercising a stabilizing influence on the movement of total output. From 1928 to 1933, consumer expenditure declined from $4,196 million to $2,848 million or by 32 per cent. During the same period gross investment in plant, equipment and housing dropped from

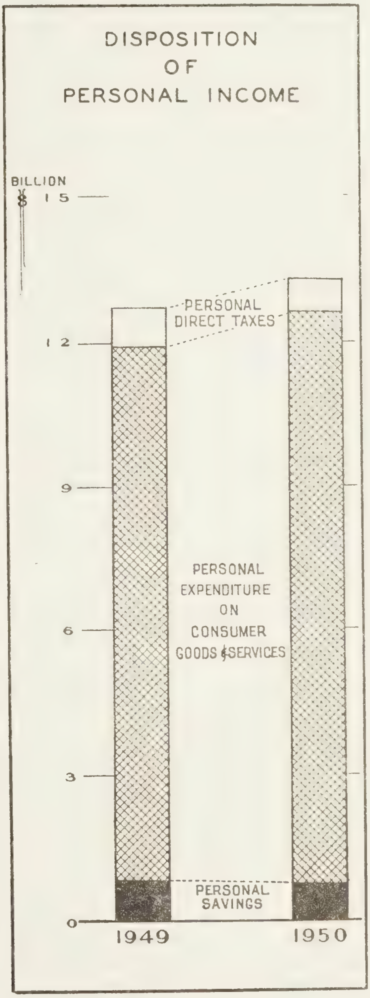
---

[1] The national accounts arrive at net income of farm operators by deducting net rents on owner-occupied houses and net transfers under the Prairie Farm Assistance Act and transfers under the Prairie Farm Income Plan (for earlier years) from the figures of "Net Income of Farm Operators from Farming Operations" as published by the Agriculture Division, Dominion Bureau of Statistics.

[2] In 1928, spending by persons on consumer goods and services absorbed approximately 70 per cent of the output while government expenditure on goods and services accounted for about 10 per cent, and investment in Canada in plant, equipment, housing and inventories for about 19 per cent. In 1933, during the depth of the depression, the percentages changed significantly to about 82 per cent, 15 per cent, and three per cent respectively. The pattern of 1939, the last pre-war year, returned approximately to that of 1928; 69 per cent, 13 per cent, and 16 per cent. The tremendous expansion in output during the war years was absorbed in large part by government expenditure for military purposes so that consumer spending in 1944 was responsible for only 53 per cent of total output, while government spending accounted for 43 per cent. Gross home investment was relatively small. By 1947, the pattern had again changed markedly.

$940 million to $221 million, 76 per cent; exports from $1,773 million to $826 million, 53 per cent; imports from $1,808 million to $828 million, 54 per cent. The recovery from 1933 to 1939, on the other hand, witnessed an increase of consumer expenditure of 36 per cent while gross investment in durable assets climbed 151 per cent, exports 76 per cent and imports 60 per cent. The same general picture is revealed in a comparison between 1939 and 1950; consumer expenditure rose from $3,861 million to $11,810 million or 206 per cent; investment in plant, equipment and housing from $554 million to $3,123 million or 464 per cent; exports of goods and services from $1,451 million to $4,200 million or 189 per cent; and imports from $1,328 million to $4,500 million or 239 per cent.





Of the personal expenditure total, approximately one-half is customarily spent on perishable goods, including food, beverages, tobacco, gasoline, fuel and drugs. Of this total over one-half is spent on food. Semi-durables, such as clothing and house furnishings, account for 15 per cent of the total, and durable goods, such as automobiles, furniture, household appliances and hardware account for eight or nine per cent of the total. This brings the total of all goods to approximately three-quarters of consumer expenditures and the remaining one-quarter is accounted for by services such as transportation, medical and recreational expenditures. There has been no noticeable change in these proportions in recent years, except in the case of durable goods expenditures which have advanced each year from six per cent of the total in 1946 to nine per cent in 1949. This is, in part, explained by the increased availability of supplies.

Canadian consumers, as a whole, are currently buying more foodstuffs and are paying more for them than in the pre-war period. The proportion of consumer expenditure devoted to food purchases rose to nearly 30 per cent during the period of wartime scarcities, presumably reflecting a diversion of spending power from other categories where shortages were more acute. The proportion dropped somewhat after 1945 and by 1949 was 27 per cent. The total spent was still an all-time high of $3,012 million. This was above the 24 per cent or $923 million in 1939. Other perishable items showing substantial increases include tobacco, beverages, and fuel and gasoline. In semi-durable and durable goods the biggest percentage increases in 1949 compared with 1939 occurred in the sales of clothing, autos, household appliances and furniture. This trend in sales continued through 1950,

As indicated above, total employment and production in an economy is dependent on the total amount of spending for goods and services produced. Spending is done by individuals, governments and corporations.

For purposes of analysis, expenditures by governments may be divided into two main categories: (1) expenditures for the purchase of goods and services and (ii) so-called transfer payments, i.e., family allowances, old age pensions, veterans' benefits and the greater part of the interest on the public debt which does not arise from current production of goods and services. The first category represents the demands which governments place on the annual output of the nation. Transfer payments, on the other hand, simply add to the sums available for spending or saving by the recipient.

For reasons that are readily apparent, government expenditures fluctuate markedly. Thus, in 1939 government expenditures made up 13 per cent of the gross national expenditure; by 1944, during the war, the percentage was 42 per cent; and then dropped to 11 per cent in 1947.

Exports and investment are generally considered as the two most dynamic determinants of the level of national prosperity. In the past these two demand components, each of which makes up an important part of total expenditure, have been subject to sharp and extensive variations. They have, therefore, exerted an effect on general economic activity out of proportion to their actual size. In the case of exports the foreign buyer is more subject than the domestic buyer to influences that may induce him to buy elsewhere than in Canada. In fact, a large proportion of domestic expenditure represents purchases of items which do not enter into international trading. For this reason, exports are generally considered to be a more significant determinant of national activity than is personal consumption with Canada. With respect to investment, both replacement and net, additions to capital stock tend to be concentrated in periods of development, which results in an irregular impact upon physical activity in the economy. To some extent this is true of government capital expenditures which, on the whole, constitute the more variable element in government requirements of goods and services.

Receipts from total exports, including both goods and "invisible" items, such as expenditures of foreign tourists in Canada, provide the foreign exchange required to pay for the goods and services obtained abroad. Whether these total receipts of foreign exchange exceed or fall short of total payments determines whether Canada is accumulating resources abroad or going into debt in current operations.

The value of exports of goods and services in 1950 was 189 per cent above that in 1939 but the volume of exports did not increase at the same rate, being about 30 per cent higher in 1950. Prices of exports increased more than the general price level. Imported goods and services have shown the same trend. The rise in import prices has been greater than the rise in the general price level and the volume of imports has increased relatively less than the value. In other words, the volume of goods and services, exported and imported, has risen considerably less than the volume flowing into the domestic market.

As regards agricultural products the same trend is apparent. The volume increase was less than the value increase for the period under consideration. The value, price and volume of agricultural products imported behaved in a similar fashion.

What all this means is that Canada has become less dependent on international trade. However, production for export continues to be the major dynamic factor in the Canadian economy, and part of the present program is directed to that end, or indirectly stimulated by developments in export industries. But it is, of course, significant that a greater proportion (of total output) than ever before is directed towards domestic production of things hitherto largely imported, including raw materials such as petroleum and iron ore, manufactured consumer goods, and a broadening range of capital goods. Canada's prosperity and the maintenance of a high level of employment will long depend upon a large volume of exports, but Canada is constantly achieving greater diversification and greater flexibility in productive potential, which will stand in good stead if major adjustments should be forced upon Canada by adverse developments in international trade.

Investment, in the physical sense, is a synonym for economic development, and throughout the world, economic development is today proceeding on a scale never seen before. For some countries, including the most advanced, the major factor is the putting into use of developments in modern technology.

Of all the broad components of the Canadian gross national expenditure, total gross home investment in housing, plant and equipment (excluding government) has shown the greatest increase since the immediate pre-war period. In 1950 it was 359 per cent higher than in 1926, and 464 per cent higher than in 1939. Prices also increased substantially during this period, therefore in volume terms this increase is much smaller. By 1950, in money values Canadian capital investment outlays, excluding government, amounted to $3,123 million or nearly 18 per cent of the G.N.E., indicating that Canada is devoting a very high percentage of her national production to capital expansion.

The rate of capital formation in Canada has been higher, since the war, than in any other country in the world. The proportion of total production going into housing and physical plant and equipment, for example, has been greater in Canada than in the United States for several years past. This increasing rate of capital investment has meant not only more goods and services for home consumption but also a larger volume which Canadians want to export in return for imports.

The factors contributing to this large expansion in private investment in the post-war period were the strong and insistent demands backed by the large financial reserves of business and individuals. Of course the volume of investment actually accomplished since the war was determined largely by the supply of manpower, materials and equipment.

Fluctuations of investment are much larger than fluctuations of any other broad component of gross national expenditure, including exports.[1] The level of investment has fluctuated substantially in the period between the 1929 and 1950 highs. The lowest volume of investment in durable physical assets was recorded in 1933, when capital outlay was less than one-third of what it had been in 1929. Even by 1939, when recovery was under way, investment was still only two-thirds of the level of 1929. When the war ended the volume of investment was about the same as in the year when the war started. Beginning in 1946, however, investment increased rapidly, and has been higher in each of the succeeding years than in 1929.

What is significant in this large expansion of capital investment is the ability of Canada during the past decade to finance a large proportion of her investment out of domestic savings.

---

[1] Firestone, O. J. Investment and Inflation, with Special Reference to the Immediate Post-War Period, Canada, 1945-1948. Mimeo. Ottawa, Dept. of Trade and Commerce. Feb. 1949. pp. 290. "The evidence supports the contention that—at least in the past—investment has been a more volatile factor than exports. In the light of this historical record the general complaint that low levels of employment and income in Canada are largely associated with a low volume of exports should be supplemented by consideration of domestic investment and other factors". p. 47.

RAILWAY FREIGHT REVENUE AND TRAFFIC PATTERNS FROM WAYBILL ANALYSIS

E. P. REID

A recent report[1] from the economic research section of the Board of Transport Commissioners for Canada provides valuable information as to railway freight revenue and traffic patterns of individual commodities. Such detailed data are not furnished by periodical reports of the Dominion Bureau of Statistics or any other published material. Regular statistical reports indicate total freight revenue for each carrier and ton-miles on the same basis. Commodity analyses of these factors have heretofore been provided only in statements which the Canadian National and Canadian Pacific Railways have at times filed in general rates cases[2] before the Transport Board.

The *Waybill Analysis* is based on the record of all carload shipments terminating on each of four days, one in each quarter, of 1949.[3] These are taken to be representative of the whole year. A waybill is the railway document which guides the physical movement of a freight shipment and also constitutes the accounting record for the revenue assessed and collected on the shipment. The *Analysis* covers carload traffic moving between stations in Canada. It omits also such traffic, not more than a minor proportion of the whole, as moves on through rates between Eastern and Western Canada but breaks bulk for water movement over Lakes Superior and Huron.

Comparative provision of freight revenue by farm products and other commodities.—About 26 per cent of all tonnage unloaded in Canada in 1949 was accounted for by cars of agricultural (plant) products which provided about 25 per cent of the revenue. A close approximation to average revenue per ton on the basis of all traffic was returned to the railways by this group—$4.77 as against $4.98 for the over-all (Table 1). On the other hand, animal products[4] were only 1·7 per cent of shipments, but provided nearly 5 per cent of all revenue. Such shipments provided $14 revenue per ton on the average.

When length of haul is taken into account, it is found that about 44 per cent of ton-miles was made up by agricultural products and 2·6 per cent by animal products, indicating longer than average haul in each case. The summary shows that the average journey for these classes of shipments was 751 miles and 662 miles respectively for agricultural and animal products, as against 445 miles for all carload shipments.[5] The significance of this finding is in the fact that terminal expenses are fairly important in those incurred in freight hauling, and shipments of farm products had a higher ratio of route miles per ton carried than did shipments in general or shipments of the other basic products from mine and forest.

Table 1 contains an analysis of average revenue on the bases of tons shipped, ton-miles, and car-miles. There is also information about extra charges for services additional to bare transportation. Ton-mile earnings for agricultural products were low and those for animal products were high in relation to the over-all results for carload shipments. Furthermore, it was the grains and grain products, largely carried on statutory "Crowsnest" rates, which made the agricultural products group lower instead of higher than the over-all. Most of the animal group items provided revenue between 2 and 3 cents per ton-mile, and the average was higher than for any other group, including manufactures.

Car-mile earnings, on the other hand, were lower for both farm products groups than for the total or for any other group—27 and 28 cents respectively for agricultural and animal products as against 37 cents for all shipments.

---

[1] Board of Transport Commissioners for Canada, Bureau of Transportation Economics. *Waybill Analysis—Carload All-Rail Traffic, 1949.* Ottawa, August 1950.

[2] E.g., the 21 per cent and 20 per cent cases of 1946-50.

[3] January 12, April 13, July 13, October 12.

[4] The customary grouping of kinds of traffic in D.B.S. reports and also in the *Waybill Analysis* uses the term "agricultural" only for commodities growing out of the ground or derived from such. In addition there is the "animal and animal products" group.

[5] These three figures are for average haul per ton. Average haul per car analyses at 741, 559, and 500 miles respectively for agricultural, animal, and all shipments, the averages still being higher, but by smaller margins, for farm products in relation to all traffic.

Railway rates are set on the basis of the nature of the commodity, the more valuable and concentrated products being more heavily assessed than low value and bulky products. On the cost of service side, a rate must be "compensatory" to the carrier in respect of expenses incurred for the shipment; definitely, rates must be such as to provide revenue to cover all out-of-pocket expenses and make a contribution to overhead. But in consideration of whether farm products rates tend more to be beneficiaries of rather than make a net contribution to the over-all rate level, several important factors must be considered: among these both ton-mile and car-mile earnings are clearly included.

Table 1.—Revenue Analysis of Sample of Carload Shipments of Farm and Other Products, 1949

——	Carloads Terminated	Average Revenue			Extra Charges	
		Per Ton	Per Ton-mile	Per Car-mile	Per Car-mile	Per Car
	No.	dollars	cents	cents	cents	dollars
Wheat	2,515	4·28	0·5	29	0·1	0·39
Oats	639	4·75	0·6	25	0·2	1·48
Barley	508	4·76	0·6	28	0·2	1·38
Rye	102	4·52	0·5	25	(a)	0·40
Flaxseed	90	4·63	0·6	27	0·4	3·45
Flour	403	4·60	0·5	20	0·9	7·94
Other mill products	611	4·84	0·7	21	0·9	5·84
Apples, fresh	81	22·10	2·0	35	1·7	19·48
Other fresh fruits	27	21·90	2·3	43	2·1	15·80
Potatoes	231	8·03	1·2	26	1·3	9·16
Other fresh vegetables	85	12·75	1·5	26	2·0	18·87
Total agricultural products (b)	5,842	4·77	0·6	27	0·4	2·86
Horses	29	16·25	2·0	26	2·7	20·15
Cattle and calves	671	9·64	1·9	20	1·7	8·44
Sheep	46	7·34	2·2	18	1·4	4·60
Hogs	324	6·08	2·5	21	2·0	4·40
Dressed meats and poultry	116	30·14	2·3	29	0·5	6·78
Dressed meats (cured, salted)	34	16·82	2·2	58	0·4	2·85
Other packing house products	31	27·65	2·8	30	0·1	1·06
Eggs	25	21·40	2·3	39	0·9	9·04
Butter	39	40·30	3·8	39	0·4	4·27
Cheese	17	20·54	2·6	48	0·4	2·67
Total animal products (c)	1,468	14·00	2·1	28	1·2	6·42
Mine products (15 items)	6,854	2·36	1·0	45	0·1	0·37
Forest products (6 items)	3,314	4·24	1·1	35	0·2	0·73
Manufactured and miscellaneous (24 items)	7,961	8·97	2·0	46	0·1	0·61
Grand Total (75 items)	25,439	4·98	1·1	37	0·3	1·41

(a) Less than ·05 cents.
(b) Including five items omitted from list in this table.
(c) Including four items omitted from list in this table.

Source: *Waybill Analysis*, page 12.

The railways give a good deal of weight to the latter in their rate-making policy. The reasons for this include the fact that it is the shippers' and consignees' responsibility to load and unload cars moving on carload rates. From the point of view of switching cars and marshalling trains, one car is much like another in its demands on time of locomotives and crews. When it is a matter of moving traffic over the line, however, tonnage is immediately a prime consideration. On any given division of the railway, in relation to grades and curves and to motive power available, there is an upward limit to the gross tons[1] per train. Tons of freight are the main component of gross tons, though necessary movement of empty cars, a variable by season and region, is also important. Thus the unit of the *train*, to which transportation labour and fuel consumption are fairly closely related, is sensitive to tonnage rather than merely to number of cars of traffic offered. This is particularly the case for main lines over which through or long-haul traffic must necessarily pass, for on such lines trains are usually despatched with full tonnage with no necessity of departing from regularity of service.

---

[1] Weight of cars and contents.

Thus, while livestock are light loading and provide low car-mile earnings, their ton-mile status is amongst the highest on the list. On the other hand, grain shipments are heavy loading—almost comparable with mine products—and provide low ton-mile earnings as well as rather low car-mile earnings. For the grain group, with its long average haul, terminal expenses might be taken to be low, and in any case some of that type of expense is covered specifically in the revenue group called "extra charges".

Table 2.—Traffic Pattern of Sample of Carload Shipments of Selected Farm and Allied Products, 1949

Commodity	Main Route or Routes			
	From	To	Carloads	
			No.	Per cent of total
Wheat	Prairie	Prairie	1,487	59
	Prairie	Pacific	709	28
Barley	Prairie	Prairie	364	72
Apples	Pacific	Prairie	36	44
	Pacific	Eastern	15	19
Potatoes	Maritime	Eastern	144	62
Cattle and calves	Prairie	Prairie	325	48
	Eastern	Eastern	172	26
	Prairie	Eastern	98	15
Hogs	Eastern	Eastern	151	47
	Prairie	Prairie	95	29
	Maritime	Maritime	34	11
Dressed meats	Prairie	Eastern	68	59
Agricultural implements	Eastern	Prairie	125	51
Fertilizers, manufactured	Eastern	Eastern	127	39
	Maritime	Maritime	77	24
	Pacific	Pacific	40	12

Source: *Waybill Analysis*, pages 13, 15, 16, 23, 24.

The services covered by extra charges are those other than line haul such as the following: stop-off and in-transit privileges, switching, protective (ice and heat), feeding and watering, terminal charges, wharfage, etc. It will be noted (Table 1) that on a car-mile basis both agricultural and animal products incurred these expenses at an average rate greater than for all traffic, and that each item of the livestock group had higher charges for these services than for any other items except fruits and vegetables. The per car analysis emphasizes the greater level of extra charges for both the farm products groups. These charges are intended to cover the cost to the railway of the service and at least in several instances—e.g., the supply of special equipment and materials—not to produce appreciable net revenue. Most of these charges have been subject to the several general rate increases, totalling 45 per cent, of 1948-50.

Traffic within and between rate territories.—The *Waybill Analysis* classifies the cars of each commodity as having been shipped within or between the following five territories: Maritime, Eastern, Superior, Prairie, and Pacific. At July 1, 1949, when the "mountain differential" was abolished by order of the Board of Transport Commissioners, the Prairie and Pacific territories were in large measure merged, but the *Analysis* carries the distinction throughout.

The preponderance of flow of agricultural traffic tallies largely with the general understanding, as illustrated in Table 2. However, regular Dominion Bureau of Statistics monthly and annual reports reveal the pattern flow of traffic only through inference, to the extent that some provinces are revealed as net surplus or deficit areas in respect of each of the commodities carried in railway freight. The waybill study, on the basis of its sample of four of about 305 business days, definitely states how many cars of each commodity went from each territory to each other territory or terminated within the initial territory. The 75 commodity groups are subdivided into the precise commodity descriptions carried on the waybill, so that details not only for, say, canned goods in general, but for jams, fruits, syrups, pickles, soups, vegetables, fish, meat, and milk, are shown.

Most wheat cars went from Prairie loading points to the Lakehead and to British Columbia. Barley moved mostly within the Prairie provinces and to the Lakehead (eastern boundary of Prairie rate region). Nearly two-thirds of the movement of cars of apples was from the Okanagan Valley eastward to the Prairies, Ontario, and Quebec. Potatoes moved with some preponderance from the Maritimes to Quebec and Ontario. Cattle and calves moved mainly within the Prairie and Eastern territories, and also from the Prairies to Eastern centres. Hogs moved mostly within each territory. Dressed meats were shipped heavily from Winnipeg and other Prairie abattoirs to Eastern cities. Half of the agricultural implement shipments were Eastern to Prairie. The fertilizer movement was principally within territories.

Practical use of data.—When rates or proposed rates are in dispute before the Board of Transport Commissioners, revenue performance of the commodity or group is likely to be brought into the case by shippers or carriers or both. To a large extent shippers have had to request vital information from railway companies, which have the opposite point of view in the case. Sometimes the Board orders the production of this type of data by the railways. A rate case is often regional in nature. Both in respect of particular commodity rate cases and cases concerning certain parts of the country, shippers may utilize to advantage very pertinent information from a report such as the *Waybill Analysis.*

Punch-card accounting is necessary for such studies and the Interstate Commerce Commission uses electronic accounting methods in producing its regular and rather complete analyses of revenue performance by commodities in United States railway freight traffic. Further Canadian waybill analyses will be forthcoming from the Bureau of Transportation Economics, and in due course more extended continuous coverage may be undertaken.

The changes in the direction of Canada's trade were reflected in changes in the pattern of commodity exports and imports. In exports, the largest increases were shown in those products for which the United States relies most on Canadian supplies —newsprint paper, wood pulp, and planks and boards. Exports of fresh fish, beef cattle, and beef to the American market also showed sizable increases. The United States also bought more Canadian base metals—iron, aluminum, copper, lead, nickel, and zinc being the most important—but increases in sales of these commodities to the United States were largely offset by decreases in sales to overseas markets. Many farm products showed reduced total exports due to reduced overseas buying, especially wheat, wheat flour, seeds, and eggs. Although bacon exports during the first eleven months of 1950 were above those for 1949, the greater part of the year's exports were of bacon bought under the 1949 contract with the United Kingdom but not shipped until January or February of 1950. Heavy domestic consumption of pork products has caused a continued downtrend in bacon exports during the past three years.

NEW PUBLICATIONS BY THE ECONOMICS DIVISION

Farm Family Living in Lanark County, Ontario, 1947-48. *MacNaughton, M. A., Mann, J. M. and Blackwood, M. B.* Processed Bul., Economics Div., Canada Dept. of Agriculture. Ottawa, 1950.

Farm Family Living in Nicolet County, Quebec, 1947-48. *MacNaughton, M. A., Mann, J. M. and Blackwood, M. B.* Processed Bul., Economics Div., Canada Dept. of Agriculture. Ottawa, 1950.

Farm Family Living in Southeastern Saskatchewan, 1947-48. *MacNaughton, M. A., Mann, J. M. and Blackwood, M. B.* Processed Bul., Economics Div., Canada Dept. of Agriculture. Ottawa, 1950.

In the summer of 1948, the Economics Division, Department of Agriculture, conducted surveys in three specific areas of Canada with the objective of examining the various aspects of farm family life and determining the levels of living attained by the families visited. A number of housewives were interviewed in Lanark County, Ontario, Nicolet County, Quebec and in the Carlyle-Moosomin area of Southeastern Saskatchewan. Limitations in the samples selected preclude the possibility of presenting statistically-reliable estimates on all the various phases of farm living as they concern families not numbered among those actually visited. However, the reports are thought to reveal some significant relationships capable of general application. It is hoped that reports of this nature will bring to both rural and urban observers a better understanding of the way of life among farm families.

Through their interviews the enumerators sought not only to establish the expenditure patterns followed in utilizing family income but also to determine the levels of living attained by the families as measured by certain economic and social criteria.

Family Expenditures.—Family income and living expenditures are major determinants of levels of living. The figures obtained here point in particular to the importance of non-cash expenditure in the farm family's spending program. During the twelve-month survey period, in each of the samples chosen, every farm provided some items—food, fuel and rent—for which no direct cash outlay was required. In the Saskatchewan sample, where total living expenditure averaged $2,277 per family, it was estimated that average cash expenditure would have been increased by $777 or 33 per cent, had not farm-furnished goods and services been available. Total living expenditure averaged $2,049 per family in the Nicolet sample; twenty-eight per cent, or $566 of this was non-cash. Average non-cash expenditure in the Lanark County sample, estimated at $676, represented 33 per cent of the average total outlay for family living.

The significance of non-cash expenditure was further emphasized by the fact that a major portion of this type of expenditure was accounted for by food, the item in the family budget which in these studies was clearly shown to absorb a higher percentage of the family expenditure as total expenditure decreased. In the Saskatchewan families, $502 of the $777 non-cash expenditure was allocated for food, $218 for rent and $57 for farm-furnished fuel. In Nicolet the $566 non-cash expenditure was divided as follows: food $348, rent $103 and fuel $115. The $676 non-cash expenditure in the Lanark County households provided food valued at $403, rent at $142 and fuel at $131.

A breakdown of average total cash living expenditures is presented in Table 1. The largest single item of cash outlay also involved the purchase of food. Combined cash expenditure on food, clothing and household operation amounted to 49 per cent of the average total cash living expenditure of the Saskatchewan families visited, 61 per cent for the Nicolet County families and 56 per cent in the Lanark County households.

Almost every family had purchased some household equipment and furnishings during the year. In many cases the outlay had been made for large items such as stoves, sewing machines and washing machines.

Expenditure for education varied markedly in different families. Many families reported no expenditure for education. In other instances these outlays were notably low but significant increases were shown for families sending children to distant schools.

Table 1.—Distribution of Cash Expenditures for Family Living in Three Sample Areas, 1947-48

Item of Expenditure	Saskatchewan (75 Families)	Nicolet Co., Que. (85 Families)	Lanark Co., Ont. (115 Families)
	dollars	dollars	dollars
Food	360	529	420
Clothing	261	271	225
Household operation[a]	228	132	208
Furnishings and equipment	147	110	121
Education, recreation and gifts	248	188	124
Health	89	124	99
Personal and miscellaneous	167	129	145
Total Cash Expenditure	1,500	1,483	1,342

[a] Includes automobile expenses. One-half of the automobile expenses and one-quarter of the truck operation expenses were considered to be a part of family living expenditures.

Outlays for health including drugs and medicines, doctor, dentist and hospital bills, spectacles or eye examinations and health or accident insurance premiums amounted to six per cent of total cash living expenditure among the Saskatchewan families interviewed, eight per cent in Nicolet County group and seven per cent in the Lanark County sample.

As might be expected, there was considerable variation among individual families from the calculated average total expenditure figures quoted for the groups. As the total living expenditure increased, the proportions required for food and household operation decreased. Families with the highest living expenditures were able to allocate a greater proportion of their total expenditure for clothing, furnishings and equipment, education, recreation and gifts, health and personal and miscellaneous items than the families who had the lowest living expenditures.

Farm Homes.—Most of the farm houses in Lanark County are large frame buildings, painted, stuccoed or finished with brick veneer. Eighty-seven per cent of the homes visited provided one or more rooms for each family member.

For the most part, the homes of the Saskatchewan families interviewed were simple in design and construction. The majority were frame houses built as replacements for the early pioneer homes. In 68 per cent of the families visited the homes provided one or more rooms per person.

Houses of frame construction predominated also on the Nicolet County farms visited. They provided one or more rooms per person in only 62 per cent of the families visited. Here, however, the average size of family was six persons as compared with four persons per family in the Saskatchewan and Lanark County sample areas.

Most community facilities were usually within easy access of the farm families visited, thus permitting fairly regular participation in community organizations and group activities. Few people had taken vacations but many had attended fairs, picnics, movies, dances and concerts. There were few books in most homes; reading was confined largely to newspapers, magazines and other periodicals.

Level of Living.—The level of living attained by a group of families cannot be measured solely in terms of expenditure for family living, particularly when information regarding this expenditure is available for only one year. Although total living expenditures may be very similar for a number of families, levels of living may differ sharply owing to important differences in the preferences of individual families and in the management of funds allocated to family living. Moreover, the expenditures of individual families may vary from year to year because of the changes in economic conditions. Thus, the material and cultural acquisitions which families possess are more accurate indicators of their levels of living. Such possessions—musical instruments, books, furnishings and other items—acquired over a period of relatively prosperous years, continue to maintain family living conditions throughout years when living expenditures are comparatively small.

A level of living scale, originally devised for use in an earlier study[1] was used to measure the levels of living attained by the families in these samples. To construct the scale an extensive inventory was taken of the material and cultural acquisitions possessed by 622 farm families located in the prairie provinces. The inventory items were statistically tested and the 27 of them which proved to be significant in differentiating between living levels were retained to form the level of living scale. Each of the items was given equal weight. Thus the level of living of a family as measured by this scale is indicated as a score out of a possible total of 27.

The average level of living scores obtained by the families interviewed in Lanark County, the Saskatchewan area and Nicolet County were 18·6, 17·8 and 16·0, respectively. Here again there was considerable variation from the calculated average, and a fairly consistent inverse relationship between living levels and expenditures for food; the proportions of both cash and total expenditure allocated for food decreased significantly as level of living scores increased. There was, on the whole, very little difference in living levels among the farm families in the three survey areas.

REVIEW OF LITERATURE

Economic Bulletin for Europe. (Second Quarter, 1950). Prepared by the Research and Planning Div., United Nations Economic Commission for Europe. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto), Vol. 2, No. 2. October 1950. pp. 89.

In the second quarter of 1950, the volume of European exports continued to expand but at a lower rate than in the previous six months. In comparison with the position before devaluation, there has been a definite expansion of the volume of Europe's exports to overseas in relation to imports. But the marked improvement in Europe's gold and dollar holdings is therefore to be explained not primarily by changes in the balance on merchandise trade but rather by shifts in the pattern of trade and by an improvement in service and capital transactions.

Industrial production continued to increase during the quarter, in both eastern and western Europe, at much the same rate as in the preceding quarters. Building activity was, in most instances, higher than a year ago.

With the deterioration of international relations after the outbreak of hostilities in Korea, new forces have been brought to bear on European production and trade. Apart from the worsening of its terms of trade inherent in devaluation, Europe is now faced with a further rise in import prices and with the prospect of increased expenditure on armaments. In addition to the general pressure on resources and the threat to monetary equilibrium which these developments may impose, there is some indication that shortages may reappear in coal and perhaps other basic commodities.

In addition to a review of the economic situation, there are two special articles entitled *The Coal and Steel Industries of Western Europe* and *Changes in the Structure of Wages in European Countries.*

Proceedings of the International Conference of Agricultural Economists, Seventh Conference, 1949. London, England, Oxford University Press. 1950. pp. xii + 372.

The Proceedings of the International Conference of Agricultural Economists, edited by J. P. Maxton of the Institute of Agrarian Affairs, Oxford, contains the four "discussion" and the 13 "non-discussion" papers read before the Conference along with the questions, the replies thereto, and discussions which followed each. The topics discussed at the meeting held at Stresa, Italy, in August 1949, although not new, were timely and very fundmental to agriculture in all sections of the world. Particular emphasis was, however, placed on problems characteristic to over-populated areas, especially those of southern Europe.

---

[1] MacNaughton, M. A., and Andal, M. E. *Changes in Farm Family Living in Three Areas of the Prairie Provinces, from 1942-43 to 1947.* Pub. 815, Tech. Bul. 69, Economics Div., Dept. of Agriculture, Ottawa, 1949.

Senator G. Medici read the first main paper entitled *Diagnosis and Pathology of Peasant Farming.* The senator fails to draw the distinction between "peasant farming" and "family farming" and tends to employ the terms synonymously. This point should be borne in mind in reading the first section of the Proceedings. The error is probably explained by the fact that by and large "family farms" (in the Canadian and American connotation of the term) are non-existent in Italy, the country from which the senator drew his main thesis. The mis-use of the terms, however, does not grossly detract from the value of the paper and Canadian readers, who fortunately are not yet directly confronted with the dire problems of over-population, fragmentation of farms and the like, would do well to read this clear and comprehensive treatment given to a very broad subject.

The two papers on *Agricultural Co-operation and the Modern State* read by Professor A. W. Ashby of Oxford University and V. Vissocchi of the University of Florence gave rise to much pertinent discussion although some participants preferred to deal with the economics of co-operative operation as such. Professor Ashby begins his paper with a definition of his subject and points out the existence of two distinct types of agricultural co-operatives: the Producer and the Consumer types, for which different principles are necessary. He proceeds to outline the relationship which exists between the modern State and co-operatives in respect of taxation; the regulation of some aspects of production; the initial supply of operative funds to co-operatives; education in matters of co-operative organization; matters concerning scattered holdings; irrigation projects and other items. The distinction he draws between co-operatives and the collective type of organization is elucidated by examples drawn from the systems found in Palestine, Russia, Yugoslavia, and Mexico.

Mr. Vissocchi traces briefly the historical development of co-operatives and considers the extent to which the more or less generally accepted fundamental principles of co-operative organization apply in various countries. He proceeds with a brief explanation of the part played by governments in the development of agricultural co-operatives, referring especially to the Division of Co-operative Marketing of the United States Department of Agriculture, but also to Ireland, Australia and South Africa as illustrations of democratic countries in which State intervention in co-operative organization has taken place. The writer deals also with the experience of co-operatives in countries "experimenting with a regime of authoritative governments". After citing the rise, the confiscation and the re-establishment of co-operatives in Russia he outlines the position of such organizations in Italy. In so doing he deals with the relatively "free hand" of the co-operatives prior to 1935; the establishment of the compulsory co-operative "Consorzi agrari" under the Fascist regime and their liquidation in the post-war period; as well as with some present and future problems of agricultural co-operatives in his country.

A paper on *The Spread of Industry into Rural Areas* was the last subject of the main "discussion" group and was read by Professor R. G. Tugwell of the University of Chicago.

Professor Tugwell expresses the belief that industrialization in all parts of the world, but in varying degrees, is inevitable ". . . because there is no other way of approximating the standard of life so generally demanded . . .". It is his view also that this industrialization will probably involve a "breaking and refashioning" of the present-day rural communities.

This writer suggests that the problems involved in decentralizing industries in advanced societies are largely those mainly concerned with integration. On the other hand the problems which confront backward or non-industrialized areas are those of securing capital and technicians along with able management which would undertake to administer industry for the benefit of the whole economy concerned and raise it to a level at which integration might begin. He cites the Colonial Development and Welfare Fund of the British Commonwealth as an agency well equipped to promote such development and suggests the United Nations might do much to assist underdeveloped countries. The discussion which followed centred chiefly around problems of industrialization in countries which are largely agricultural and densely populated.

Other papers read before the conference were the following: *Evaluation of Productive Factors in Agriculture*—Professor Anderson (University of British Columbia); *Some Aspects of Canadian International Trade*—Professor Burton

(Macdonald College); *The Machinery of Forward Price Fixing in British Agriculture*—E. Thomas; *Farm Prices and the Outlook in the United States*—O. C. Stine; *The Principal Problems of Italian Agriculture*—M. Bandini; *Progress of Agricultural Recovery in Germany*—W. Klatt; *Food and Agriculture in the European Recovery Program*—B. H. Thibodeaux; *Farm Appraisal*—M. J. Boerendonk; *Land Valuation and Credit in the United States*—W. G. Murray; *Reducing Costs of Agricultural Production in a High-Cost Area*—W. H. Long; *Considerations on Agrarian Reform in Italy*—M. Rossi-Doria; *The Present State of Agricultural Statistics in Europe*—J. B. Chombart de Lauwe; *The Progress of Co-operation in Indian Agriulture*—Sir M. B. Nanavati.

Rolph, William Kirby. *Henry Wise Wood of Alberta.* Toronto, University of Toronto Press. 1950. pp. XI + 235.

In the concluding chapter of *The Diary of A. J. McPhail,* the editor, H. A. Innis, remarked that "the influence of Dr. H. W. Wood on leaders of farmers' organizations in Western Canada deserves careful study". Here then is a careful study of H. W. Wood, Alberta's revered and respected leader of the so-called "agrarian revolt". Innis also noted that further biographies of other western farm leaders should be of interest and value. To complete the picture the next biography should deal with Bredt or Burnell of Manitoba.

Professor Rolph's book on Henry Wise Wood will enlighten many on the philosophy and background of the aggressive farmers' movement in Alberta during the period after the first World War and throughout the 1920's. Leaders in the co-operative farm movement are concerned over the fact that many of the younger members are inclined to take co-operatives for granted. It is through biographies of men like Henry Wise Wood that the spirit and atmosphere of the pioneer days of the co-operative movement might be recaptured. This biography is not completely successful in this respect, as considerable space is devoted to the rural political problems and Wood's role in that field rather than to the drive and force that Wood brought to the fore in building co-operatives.

Henry Wise Wood of Alberta is an important piece of the agricultural history of Western Canada but it is not nearly as engrossing and absorbing as McPhail's diary and on putting the book down the reader will still be puzzled in assessing what it was that made Wood "the uncrowned King of Alberta".

Carefully and copiously annotated, it yet fails to convey convincingly the reasons for Wood's tremendous power over the membership of the U.F.A. Perhaps more quotations from his speeches and letters and writings would have allowed the reader to feel what obviously the rank and file U.F.A. member did.

H. W. Wood was born in Ralls County, Missouri in 1860 and came to Canada in 1905 where he settled with his family on a section of land at Carstairs near Calgary. At 45 years of age this expatriated American began a new life in a new land. While in Missouri he took no active part in politics or in the various farm movements. He was a successful Missouri farmer and cattleman, active in his church, a Free Mason and a member of the Farmers and Laborers Union. A student and avid reader, unwittingly he readied himself for the great role he was to play in the farmers' movement of Alberta. Six years after he came to Canada he was elected a delegate from Carstairs to the convention of the U.F.A. He became district director in 1914 and vice-president in 1915. The president died suddenly in that year and Wood became acting head and was confirmed as president at the 1916 annual meeting.

His whole life after this date was bound up in the U.F.A. and the Alberta Wheat Pool. He was never seriously threatened as the acknowledged leader of the Alberta farmers and he retired from active life in 1931. Greatly admired and respected by his colleagues he also managed to retain his intimate connections with the men on the land. His philosophy of group action found great support in Alberta but it was criticised "as contributing to class antagonism and class legislation".

Misspelling of the word "principal" in more than one instance and a reference to Canadian Co-operative Wheat Producers Limited omitting the word "co-operative" detract somewhat from the otherwise excellent organization of the book.

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS

FRANK SHEFRIN, Editor

JUNE 1951 Vol. XXI, No. 3

CONTENTS

Page
The Economic Situation 51
Canadian Agriculture at the Middle of the Century— .... J. F. Booth 53
Utilization of Dykeland in the Maritime Provinces, 1949-50 .... G. Haase 58
International Trade in Relation to Canadian Agriculture 62
Canadian Agricultural Trade—1950— .... M. I. Dunbabin 64
Consumer Taste Preferences for Cheese at the Royal Winter Fair 67
Review of Literature 71

MARKETING SERVICE, ECONOMICS DIVISION

J. F. BOOTH, Chief

Published by Authority of the Right Honourable James G. Gardiner, Minister of Agriculture

ANNUAL AND MONTHLY INDEX NUMBERS (a)

WHOLESALE PRICES, FARM PRICES AND LIVING COST INDEXES

Year	Wholesale Prices 1935–39 = 100				Farm Prices of Agricultural Products 1935–39 = 100 (e)	Commodities and Services used by Farmers 1935–39 = 100		Cost of Living 1935–39 = 100	
	(b) General Wholesale Index	(b) Farm Products	(c) Field Products	(d) Animal Products		(f) Equipment & Materials	(g) Eleven Factor Index	(h) Farm Living Costs	(i) Urban Living Costs
1913	83·4	....	....	....	....	85·4	....	80·1	79·1
1914	85·4	....	....	....	....	90·2	85·3	82·3	79·7
1915	91·8	....	....	....	....	96·9	91·6	86·5	80·7
1916	109·8	....	....	....	....	101·7	100·5	93·7	87·0
1917	148·9	....	....	....	....	140·7	140·5	111·5	102·4
1918	166·0	....	....	....	....	164·1	160·2	131·1	115·6
1919	174·7	....	....	....	....	169·1	167·9	143·0	126·5
1920	203·2	....	....	....	....	190·1	186·5	171·3	145·4
1921	143·4	....	....	....	....	147·4	152·5	139·9	129·9
1922	126·8	....	....	....	....	124·6	134·1	127·9	120·4
1923	127·7	....	....	....	....	118·3	130·6	128·3	120·7
1924	129·5	....	....	....	....	122·3	131·9	125·5	118·8
1925	133·8	....	....	....	....	123·2	131·8	123·9	119·8
1926	130·3	144·4	158·5	130·2	....	119·9	130·6	121·1	121·8
1927	127·3	138·6	149·4	127·8	....	119·9	131·2	119·8	119·9
1928	125·6	136·3	134·3	138·2	....	118·3	129·3	118·5	120·5
1929	124·6	140·8	137·2	144·4	....	117·6	127·9	117·3	121·7
1930	112·9	119·5	105·8	133·3	....	105·6	117·0	113·7	120·8
1931	94·0	78·9	65·0	92·7	....	92·2	100·9	103·9	109·1
1932	86·9	65·5	60·4	70·5	....	89·3	93·3	97·8	99·0
1933	87·4	69·3	69·3	69·2	....	88·8	89·8	95·8	94·4
1934	93·4	83·5	80·5	86·5	....	96·8	95·5	97·9	95·6
1935	94·4	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	96·7	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	107·8	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·0	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	99·2	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	108·0	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	116·4	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	123·0	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	127·9	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	130·6	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	132·1	165·3	160·4	170·2	185·7	125·9	152·1	123·2	119·5
1946	138·9	177·0	172·9	181·2	204·1	128·0	157·0	127·1	123·6
1947	163·3	189·7	179·1	200·2	215·8	139·5	170·4	138·3	135·5
1948	193·4	229·6	195·6	263·7	255·8	173·1	197·4	162·8	155·0
1949	198·3	225·2	186·9	265·4	255·4	180·3	204·1	173·2	160·8
1950	211·2	231·5	181·7	281·4	255·2	189·9	210·4	177·6	166·5
1950									
Mar.	201·5	226·9	187·8	266·0	252·4	....	....	....	163·7
April	202·5	228·8	189·7	268·0	254·7	191·0	209·7	176·7	164·0
May	204·7	231·6	190·4	272·8	255·5	....	....	....	164·0
June	209·2	240·9	192·7	289·1	264·1	....	....	....	165·4
July	212·0	243·3	192·2	296·4	268·2	....	....	....	167·5
Aug.	215·7	236·3	174·2	298·5	261·3	194·3	218·7	180·7	168·5
Sept.	222·6	234·9	172·6	297·1	256·3	....	....	....	169·8
Oct.	220·0	228·5	170·2	286·8	248·8	....	....	....	170·7
Nov.	222·4	230·4	170·3	290·5	251·4	....	....	....	170·7
Dec.	225·2	234·5	170·6	298·4	256·0	....	....	....	171·1
1951									
Jan.	232·3	242·2	173·5	310·9	261·4	201·1	216·9	184·1	172·5
Feb.	238·5	253·7	177·9	329·6	272·0	....	....	....	175·2
Mar.	241·8	264·2	181·2	347·2	280·8	....	....	....	179·7
April	....	....	....	....	....	....	....	....	181·8

(a) **Revised each issue.**

(b) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo.) Ottawa, Monthly Wholesale prices of products of Canadian farms.

(c) Ibid (b). Wholesale prices of grains, hay, tobacco and potatoes.

(d) Ibid (b). Wholesale prices of animals and animal products.

(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo.) Ottawa, Monthly.

(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo.) Ottawa, Jan., Apr., and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.

(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.

(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.

(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

THE ECONOMIC SITUATION

Torquay Tariff Negotiations.—Canada successfully concluded trade agreements with 16 countries. The Torquay Agreements incorporate the results of 147 separate two-sided tariff negotiations which were successfully concluded among the 34 countries taking part in the Torquay Conference. Under the most-favoured-nation principle, all tariff concessions agreed to at Torquay will become available to Canada whether or not these concessions were negotiated directly with Canada. Similarly, Canada will automatically extend its own tariff concessions to each of the other participating countries. The tariff concessions agreed to will come into effect on or after June 6, 1951. In addition to the important agreement with the United States, Canada completed successfully tariff agreements with France, Italy, Sweden, Norway, Denmark, the Dominican Republic, Haiti, India, Western Germany, Peru and The Philippines. Important products are included from each of the major regions across the country. For example, among the tariff reductions received by Canada from other countries are fisheries products, of interest to Newfoundland and the Maritimes; dairy products, forestry products and manufactured goods, of interest to Ontario and Quebec; livestock, wheat and coarse grains, of interest to the Prairie Provinces; canned salmon, plywood and base metals, of interest to British Columbia. A variety of farm products, important to all farming regions, are represented among the concessions which have been received.

The tariff concessions made by Canada at Torquay cover 397 items or sub-items of which 261 are reductions in the present most-favoured-nation tariff and 136 are bindings of the existing rates of duty. Most of these bindings cover items already bound at Geneva or Annecy. Only 37 are new bindings.

The Budget.—The 1951-52 federal budget, designed to restrict inflationary trends and to raise sufficient revenue to meet increased defence expenditures, is, of necessity, a higher tax budget. The Minister of Finance, in his budget address, said,

> The essential principle in preventing inflation is to restrict the total of all expenditure, public and private, to an amount which can be met from our production and imports. The necessities of defence now require that our expenditures for all other purposes should be reduced—making due allowance for the increase in prices that has already occured.

The Minister of Finance in his budget address forecast that in 1951 the gross national product (value of goods and services produced) will reach about $20 billion or 12 per cent over 1950. Preliminary reports for 1951 indicate that the business and industrial sectors are planning to increase investment by 14 per cent over the 1950 total of $3,791 million. However, with material shortages and tighter bank credit, there may be a downward revision in estimates.

For the new fiscal year 1951-52, estimated expenditure for non-defence purposes has been reduced by $35 million. On the whole, the Minister of Finance is budgeting for a surplus of $30 million, with estimated revenue being $3,730 million, and estimated expenditure $3,700 million.

As regards the tax policy, the Minister of Finance stated that he had

> ...decided not to recommend any major reconstruction of our tax system this year but instead to meet our current requirements by a series of simple but adequate surcharges on several existing taxes and also to widen the coverage of our special excise taxes... My tax proposals... must be regarded as an interim policy for the period of the current year.

The rates for personal and corporation income taxes have been raised. The general sales tax has been increased from eight to ten per cent. The tax on tobacco and cigarettes is increased. Excise taxes on a number of commodities, such as motor cars, radios, household electrical appliances, electric refrigerators and stoves, etc., are increased. There are also some adjustments, allowing for additional expenditure deductions from taxable personal income.

To slow down non-defence investment, the Minister of Finance announced that "it is proposed to defer for a period of four years the right to charge depreciation on all capital assets acquired after April 10, 1951, excepting certain classes of assets defined..." This measure went into effect immediately.

In the budget address, the Minister of Finance also announced new tariff revisions pertaining to farm equipment: "They would provide for the free entry of such things as grain or hay driers, individual sprinkler irrigation systems and several items of dairy equipment when for use on the farm."

Current Economic Conditions.—Canadian production of steel ingots reached an all-time monthly peak total of 304,281 tons as compared with 287,719 in March 1950. Previous high was 299,410 tons in January 1951. The daily average output for March was 9,816—a new high for a month—as compared with 9,281 a year earlier.

Cumulative production for the first three months of 1951 amounted to 874,913 net tons, six per cent above last year's corresponding total of 823,503 tons. Daily average output for the first quarter was 9,721 as against 9,150 in the similar period of 1950.

Canadian production of refined petroleum products increased 17 per cent in January 1951 over the corresponding month last year, while receipts of crude were six per cent higher.

Coke production moved up nine per cent in February over the corresponding month last year, amounting to 312,000 tons as compared with 286,000. For the two months, January and February, the cumulative total was 654,000 tons as against 609,000 in the similar period of 1950, a rise of seven per cent.

The sharp upswing in Canada's retail trade which reached notable proportions in January, continued in February. Sales for the first two months of 1951 aggregated $1,343,000,000, an increase of 19 per cent over the same period of 1950.

Value of inventories held by Canadian manufacturers rose to a higher level in February, the Dominion Bureau of Statistics' index, on the base 1947 = 100, rising to 153·0 from 149·4 in the preceding month and 133·8 in the corresponding month last year.

Canada's total civilian labour force was 64,000 greater in March this year than a year earlier, according to the quarterly survey by the Dominion Bureau of Statistics. The rise was accompanied by important shifts between the agricultural and non-agricultural segments, the former declining 97,000, and the latter increasing 161,000.

Of the total labour force, persons with jobs numbered 5,000,000 as against 4,796,000, and persons without jobs and seeking work totalled 172,000 as compared with 312,000. Since the number of persons with jobs increased at a higher rate than the labour force as a whole, persons with jobs as a percentage of the labour force rose from 93·9 per cent for the week ending March 3 last year to 96·7 per cent.

Average weekly salaries and wages in the nine major industrial groups moved up to $48.16 in March 1951—the highest on record—as compared to $47.87 a month earlier and $44.61 at the first of March 1950.

The cost-of-living index advanced from 179·7 to 181·8 between March 1 and April 2. Nearly one-half of this increase of 1·2 per cent, or 2·1 points, was accounted for by butter which moved to higher levels during the latter half of March and the early part of April, and then dropped sharply. The balance of the increase was largely due to other foods, clothing, home-furnishings and miscellaneous items.

Farmers' 1951 Acreage Intentions.—Canadian farmers will have less acreage in wheat and summerfallow and more in coarse grains and flaxseed this year than last, according to estimates by the Dominion Bureau of Statistics based on indications of farmers' intentions at April 30, obtained through the annual survey of crop correspondents conducted in co-operation with provincial departments.

Spring wheat acreage will be some 900,000 acres or about four per cent below last year's level of 26,100,000 acres, and the combined acreage of spring and winter wheat is placed at 26,000,000 acres as against 27,000,000 in 1950. A decrease of more than 700,000 acres in the Prairie Provinces for summerfallow is anticipated, bringing the 1951 total down to 20,300,000 acres.

Increases in the major coarse grains and flaxseed are expected to more than offset the reductions in wheat and summerfallow acreage. The intended seeding of oats is placed at 12,000,000 acres, up four per cent from 1950, while barley at 7,700,000 acres will be 16 per cent higher. Total rye acreage is expected to be up six per cent, and flaxseed acreage to be almost doubled, reaching the million-acre level for the first time since 1948. The acreage intended for potatoes is 10 per cent below that of 1950.

CANADIAN AGRICULTURE AT THE MIDDLE OF THE CENTURY[1]

J. F. Booth

Some important contributions to agricultural science have been made in Canada during the past 50 years. Perhaps the first of these to attract world notice was the discovery of Marquis wheat. This was a product of the Dominion Experimental Farms System. It was one of the first fruits of a comprehensive Canadian program of plant improvement through breeding and selection which was launched in the later years of the last century. Other outstanding contributions to the program have been the development of rust resistant varieties of wheat. Apex produced by the University of Saskatchewan, Renown and late varieties by the Experimental Farms Service, are examples of these. Rescue wheat, a variety developed to combat the attacks of wheat stem sawfly typifies the program to resist losses caused by insects. The production of varieties of plants suited to drought or cold has extended the boundaries of agriculture both in Canada and elsewhere.

Much work has been done on the selection and testing of crop varieties, on rotations, the use of manure and fertilizers, tillage and harvesting methods, land drainage and irrigation, and in the breeding, management, nutrition and housing of livestock.

During the past 30 years 226·5 million acres of land have been classified by soil surveys. Since 1925 about 25 million acres have been given an economic classification.

Soil moisture investigations have changed our ideas of the real value of summerfallowing and of cultivating summerfallow land. The development of strip farming, trash cover, rough tillage and plowless fallow and the widespread co-operation of farmers in putting these practices into effect did much to reduce the effect of soil drifting.

Within the scope of activity now covered by the Science Service of the Federal Department there have been many notable contributions. One of these made many years ago, concerned a venereal disease of horses known as Dourine which had caused great economic loss in the United States and was spreading into Canada. Intensive research led to the finding of control measures. The virtual elimination of pullorum in poultry and the control of the nodular disease of sheep are other contributions in the field of animal pathology.

The development of improved methods of testing milk and sterilizing milking machines, the elucidation of factors making for the optimum keeping quality of cheese and butter, the improvement of the quality of dehydrated food products, new knowledge in the field of soil microbiology and in the control of American foulbrood are contributions in the field of bacteriology and dairy research.

The study of mineral deficiency diseases, root diseases of alfalfa and clovers, the perfecting of techniques for conducting digestibility trials with livestock, the development of measures to protect crops from wireworms and the introduction of an automatic orchard concentrate sprayer which gives promise of eliminating the conventional types of spraying equipment are other notable additions to knowledge and techniques made by Canadian agricultural scientists in recent years.

---

[1] Part I of this article appeared in the April 1951 issue of the *Economic Annalist.* This is part of an address given in the lecture series of the Agricultural Graduates Association, University of Saskatchewan, Saskatoon, Jan. 8, 1951.

Errata: In Part I of this article appearing in the April 1951 issue: p. 31, fourth line below table, delete "Table 8"; p. 32, Table 5, fifth column, heading, delete "per farm".

More recently in the field of agricultural economics Canadians have also made a contribution. Progress has also been made in the study of agricultural policies. Improvements in the methods of land classification and land use studies and contributions towards the economics of land settlement and land reclamation have been made. A variety of research in farm management, marketing, consumption, agricultural co-operation, levels of living and other fields of agricultural economics has been undertaken.

It is difficult, if not impossible, to assess the contribution of experimental and scientific research toward increased production, but those who have witnessed the widespread adoption of new varieties of grains, forage crops, fruits and vegetables and oil bearing crops will realize that production has been greatly increased. So, too, those who have seen the improvement in herds and flocks, the increase in milk production, the greater yield and year round production of eggs and the complete shift of the hog industry from a fat hog to a bacon type will appreciate what science and education, combined with the co-operation of farmers, have done in a comparatively short time.

To put a monetary value on such achievements in an economy in which price and value, in the short run at least, are related to scarcity is even more difficult. However, attempts have been made elsewhere to do that sort of thing and they may have some application to Canada. Referring to one development, for instance, it has been "conservatively estimated that the increased yield of corn (in the United States) during the war years (resulting from the development of hybrid corn) exceeded two billion dollars . . . ".[1]

It is probable that Canadian contributions of Marquis and other early maturing varieties of wheat together with other varieties resistant to rust and sawfly damage have in the longer run period resulted in similar returns to Canadian and other producers. But whether or not such an appraisal can be defended few would be disposed to question the contribution that increased food supplies resulting from scientific endeavour have meant to human welfare.

In an appraisal such as this, one should not omit reference to developments in the field of marketing. During the past half century a vast network of marketing agencies, private and co-operative, have been developed in Canada. They function in both the national and international fields with a degree of efficiency that has brought commendation from many quarters.

Facilitating the activities of these bodies and protecting the interests of both producers and consumers a comprehensive program of grading and standardization has been applied. In many aspects of this undertaking Canada has been credited with having done pioneer work.

Canadian experience in the field of agricultural price stabilization is also worthy of note. Modest in its approach to a difficult problem the Canadian program has been an effort to afford reasonable stability without unduly interfering with the operation of a competitive system. This moderate approach may ultimately find support in a world that has drifted rapidly in the direction of regimentation and control. Canadian endeavour in the field of international trade relations has also been designed to preserve, and more recently, to restore something of the traditional concepts. Efforts to promote reciprocal trade during the inter-war period and to reduce trade barriers since 1945 have been pursued with diligence and with some success.

The Debit Side.—Thus far most of what has been said about Canadian agricultural development during the past half century has been on the credit side. In defence of any charge that the position has been overstated it may be claimed that a great deal more could be said. But there are also things that might be said about the other side. Two of these will be mentioned.

---

[1] Referred to by W. Ralph Singleton in an article "Some High Lights of the First Half Century of Genetics". *Scientific Monthly*. December 1950. P. 405.

The first concerns the failure of farmers to make greater use of the scientific and technological information available. In spite of the fact that noteworthy improvements have been made in production the output of Canadian farms is much below what it could be. The yields obtained by experimental farms and illustration stations are higher than those obtained by farmers. Farm management surveys of thousands of farms indicate a great range in yields and incomes. Some farmers have done reasonably well even in periods of low prices because their output per acre and per animal was high and their organization and management of their property was good. Others show losses even under the most favourable conditions because their output and management were not good. Reference has been made to an average production of 4,637 pounds of milk per cow. But there are regions in Canada where the average production is 6,000 to 7,000 and there are individual farms with averages of 10,000 pounds or more. This is an example of conditions that prevail in many phases of the industry.

These unfavourable conditions prevail in spite of the fact that information pointing the way to better farming methods and better management has been available for years. What is the explanation? We have an elaborate extension service in this country. Is it being made use of as it should be, and if not what can be done to get the knowledge available to those who could and should use it?

The second item on the debit side concerns depletion of our soil resources. Many extreme statements on this subject have been made in recent years—some by persons of authority—that have tended to create alarm. Examples of lands that have been made barren and civilizations that have passed away because the fertility of the basic resource, soil, has not been preserved, have been cited. It is one of the failings of crusaders that they tend to see only one side of a case. Little or no reference has been made for instance, to the successes of many countries, notably those of western and northwestern Europe in improving or restoring their soils after generations of use.

It is probable that in the development of the agriculture of every country since mankind first began to wrest food from the earth, land has been exploited. It could hardly have been otherwise. In every productive activity man combines the factors of production—land, labour and capital—in such a way as to make greatest use of the factor that is most abundant and cheapest. In pioneer regions land is the abundant and cheap factor; labour and capital are scarce and expensive.

We in Canada have done what others before us did. We have used our soils and their fertility to develop farms, build homes and strengthen a nation. We have permitted people to settle on land that subsequent experience indicated should not have been put into farms. Some of this land has been abandoned or is in the process of being returned to other uses.

In the prairie region of the West economic surveys and land classification already completed indicate that more than 13 million acres of land are submarginal for wheat production. Most of that land has been farmed and a good deal of it still is. In Ontario, Quebec and the Maritime provinces, millions of acres have reverted to unimproved land.

Agricultural authorities have not been unaware of these conditions. Many whose college training was taken a generation or more ago will recall the lectures and warnings of those days to the effect that we were "taking everything out of the soil and putting nothing back". A number of efforts were made by individuals and governments of that period, and even earlier, to arouse interest in conservation. Departments of agriculture have encouraged soil management for many years.

There eventually comes a time in enlightened countries when the depletion of natural resources is retarded or stopped. In agriculture that time is reached when a better balance in the factors of production is attained, when farming becomes well established, and when the public becomes conscious of the need. There is evidence that that time is coming in Canada. A forward step was taken with the commencement of soil surveys in the early nineteen twenties. Conservation was given great impetus with the introduction of the Prairie Farm Rehabilitation Program in 1935. The expanded program of government departments in the field of conservation in recent years, the Marshland Rehabilitation work in the Maritimes, the activities under the Ontario Conservation Authorities Act, the work of the Agricultural Institute of Canada, the emphasis now being placed on land use in Saskatchewan and the consolidation of legislation and activities relating to resources affecting agriculture under the Provincial Department of Agriculture, are other evidences of aroused interest and activity in conservation.

Looking to the Future.—In considering the future one of the things that seems inevitable is that the pattern of production and trade will be different. As our population increases and we think more in terms of the domestic market, adjustments already under way will increase. There will be more intensive and less extensive production, more livestock products, fruits and vegetables and less grain. We will farm better, use more fertilizer and increase the output per acre. Nevertheless some of the products we now export will disappear from the list, and other products may be added. We may become an importer of some products that we now export.

There will be both need and opportunity for further development. Competition will spur us on to greater achievements. This will mean more mechanization, more power and still more scientific research. It will also call for greater application of the results of scientific knowledge and better farm management.

Progress in the development of machinery and power has been so rapid during the past few decades that one might well ask if more can be accomplished. It may be that in respect of equipment for large operations in types of farming such as grain production, improvements will be less marked than in recent years. There may be less need for such improvements. It is possible that the major interest will centre in equipment suitable for (1) small farms, particularly for harvesting operations; (2) specialized crops; (3) land of rugged, uneven topography; (4) improved conservation practices, and (5) reducing labour in the handling of livestock and livestock products.

There will be need for more and better equipment for farm homes, especially where electricity is not available. More electrical power and light and the many home conveniences that are in common use in urban homes should be available in the country also to lighten the chores and to add to the comforts of rural living.

We need farm buildings that are better adapted to present and future requirements—more utilitarian in design and of less expensive construction. We need more research on this subject; also on the matter of simplifying farm work.

The progress made in respect of conservation is significant and encouraging, but we can do much more to make farmers and the public conservation-conscious. If the knowledge already available were used to the fullest extent a great deal could be accomplished. If what is being done by the best farmers could be made universal it would be a great step forward.

But as we look some distance ahead it seems probable that more information will be required. There should be more experimental work and more research on both the scientific and technological aspects of conservation to meet that need.

This should include additional soil survey information and more economic surveys of land use and land classification. These are functions of governments and of colleges and universities.

There is also another function that is in large measure the responsibility of governments, namely, the construction of large works such as those needed for irrigation and drainage. For some phases of conservation these must precede action by farmers. As financial conditions permit these developments should be proceeded with. As opportunity permits, reforestation, the expansion of recreational areas and the preservation of wild life should be further developed.

More and Still More Research Needed.—The estimates of the government of Canada for activities relating to agriculture in 1900 provided for an expenditure of about $400,000. In 1950 the amount voted for the Federal Department of Agriculture was $59·8 million. Roughly $16 million of this was for experimental and scientific research, including equipment and buildings. Additional sums were also provided for the National Research Council, the Bureau of Statistics and other Federal Departments for work relating to agriculture. Similar expansion has taken place in the provinces.

These are large amounts of money for a country such as Canada, but large as they are, it seems likely that they will be exceeded in the future. This is likely to be particularly true of expenditures for experimental work and scientific research. A review of work being done in plant and animal breeding, in biology, chemistry and botany, bacteriology, pathology and other scientific fields suggests that we are just on the threshold of great advances. These in turn will open new avenues requiring investigation. Agriculture, the simple way of life, has become the centre of great scientific development and the end is nowhere in sight.

Apart from other stimuli to increased endeavour two important factors will cause us to press forward. The first is the race to keep ahead of the forces of nature that tend to destroy. It is common knowledge today that for every kind of disease and insect pest that plagued the farms in Canada a half-century ago there are several today. A recent instance of this is the sudden widespread appearance of a variety of rust that has hitherto been limited in its distribution and destructiveness. One of the tasks of the scientist is to eliminate or keep these destructive elements under control. Where this is not possible new varieties of plants that are immune to damage must be produced. In some respects agriculture destroys the balance of nature and science is faced with the problem of restoring it.

The second force that will cause us to expand our research program is competition, and here the efforts cannot be confined to production. It must include research in all phases of marketing and distribution. If Canada were to mark time in her efforts to improve the production and marketing of farm products while other nations continue to expand, we would not long maintain our products in the markets of the world. Nor could we even maintain our own domestic markets for Canadian products unless steps were taken to exclude from Canada the more efficiently produced and better quality products that would be available in other countries. Agriculture is a dynamic and ever changing industry and men and nations will continue to press forward. There can be no marking time or retrenchment in the long-time program. Progress in Canada, as elsewhere, will be attained only by constantly increasing endeavour.

In this program the science of economics will play an important part. As agricultural economists accumulate systematized knowledge and apply this to the discovery of general truths their usefulness and their contributions to the solution of agriculture's problems will increase. This will be true not only in relation to the problem facing the man on the land but also to those that will be experienced by men responsible for the development and administration of agricultural policies.

Conclusion.—Finally, this mid-century appraisal of Canadian development and the part played by agriculture has served two purposes. It has enabled us to review some of the achievements and shortcomings of the past fifty years. On the whole the results will probably be considered reasonably satisfactory. It has also permitted us to peer, even though dimly, into the future. In this regard no one can speak with complete assurance. We face the possibility at the moment of developments in the international field that could seriously affect peace time programs. If these do not materialize and if we have the faith and wisdom to build adequately on the foundation already well laid Canadian agriculture will continue to play an effective role in advancing the status of the nation in the years ahead.

UTILIZATION OF DYKELAND IN THE MARITIME PROVINCES, 1949-50

GORDON HAASE

From the beginnings of settlement following the founding of Port Royal in 1605 by Samuel de Champlain, the marshlands associated with the Bay of Fundy and its fresh water drainage system have been an important factor in Maritime agriculture. The early settlers enclosed small areas of marsh with hand-laid dykes, and this land, when protected from the sea was very productive. The land was cultivated to provide the cereals required by the settlers and their families, and then, after two or three years, was planted to hay which was allowed to stand from five to ten years.[1]

During the 200 years following about 1650, the area of protected marsh increased considerably, and was mostly used for producing hay, in which a thriving trade had developed with the metropolitan areas of the eastern United States. After about 1880, however, it appears that marshland husbandry began to decline. One factor in this tendency was the increasing importance and profitability of apples which were being grown on the frost-free and previously neglected uplands. Another factor was the loss of the hay market which accompanied the development of motorized transport. The decline continued after World War I, when the agricultural depression and industrial development elsewhere combined to encourage migration out of agriculture in these areas. At the same time, the removal and death of skilled dyke workers soon resulted in a deterioration of the protective works, and dykeland began to be lost from cultivation to the action of the sea.

During World War II, the situation of the dykelands became critical, and emergency action has now been taken to assure these lands of their former protection and productivity. In 1950, an economic study of the marshlands was undertaken which had as one of its objectives the description of the pattern of land use on the Maritime dykelands in that year. During the course of this study, farms were visited in the major marsh areas, and the uses being made of the dykeland in 1949, in four of these areas, are shown in the following sections.

The Annapolis River Marsh Area, N.S.—The marshlands associated with the Annapolis River begin along the Annapolis Basin below the town of Annapolis Royal and extend eastward and up the Annapolis River to a point above Bridgetown, Nova Scotia. The extent of the total marshlands in this area, has been estimated at about 4,852 acres.[2] Of this amount, about 3,556

---

[1] Young, John, *The Letters of Agricola.* Reprinted by Blackadar Bros., Halifax, N.S. 1922. p. 96.

[2] Unpublished engineering report Maritime Marshland Rehabilitation Administration.

Table 1.—Use of Marshland on 153 Farms, Annapolis River Marsh Area, N.S., 1949

Kind of Crop	Number Reporting	Acres	Per Cent of Total	Average per Farm	Average per Farm Reporting
Broadleaf	28	197	9·4	1·3	7·0
Clover, timothy and other hay	98	1,058	50·5	6·9	10·8
Oats	15	40	1·9	0·3	2·8
Mixed grain	3	11	0·5	0·1	3·7
Roots and vegetables	4	5	0·2	....	1·2
Pasture	13	101	4·8	0·6	7·8
Out to sea	59	685	32·7	4·5	11·6
Total		2,097			
Average per farm		13·7			

acres lie between Annapolis Royal and the head of tide and a further 1,296 acres lie between Annapolis Royal and Goat Island down stream in the Annapolis Basin. This total includes all lands presently protected as well as areas which have never been dyked and other areas once protected but now out to sea, and subject to tidal action.

In the course of the economic study of the marshland in 1950, records were obtained from 153 farmers having dykeland in this locality. These farms contained about 2,100 acres of this land, or about 43 per cent of the total marsh in the area. In 1949, about one-half of these 2,100 acres were producing a mixture of clover and timothy hay. About ten per cent of the dykeland on the visited farms, however, were still producing the coarse broadleaf species associated with marshland that is subject to occasional floodings. In that same year, there were only about 56 acres of cultivated crops grown on these farms, representing about 2·6 per cent of the total dykeland enumerated in the Annapolis River area. Almost one-third of the marshland enumerated was out to sea in 1949, largely accounted for by marsh holdings in the Belle Isle marsh body. The distribution of the main crops grown on the marshes in the Annapolis River in 1949 is shown in Table 1.

The Kentville-Windsor Marsh Area, N.S.—There is a considerable amount of marshland in the area between and in the vicinity of the cities of Kentville and Windsor, Nova Scotia. This marshland is associated mainly with four rivers, the Cornwallis, the Canard, the Avon and the Gaspereau and with the shore of the Minas Basin, where these rivers empty into it. The extent of these marshes has been estimated to be something more than 8,500 acres. Certain

Table 2.—Use of Marshland on 70 Farms, Kentville-Windsor Marsh Area, Nova Scotia, 1949

Kind of Crop	Number Reporting	Acres	Average per Farm	Per Cent of Total	Average per Farm Reporting
Broadleaf	2	52·0	1·3	2·4	26·0
Clover, timothy and other hay	60	1,238·0	17·7	57·8	20·6
Vegetables and roots	4	31·5	0·5	1·5	8·0
Oats	40	308·0	4·4	14·3	7·7
Mixed grain	8	57·0	0·8	2·6	7·1
Pasture	18	275·5	3·9	12·8	15·3
Out to sea	11	189·0	2·7	8·8	17·2
Total		2,151·0			
Average per farm		30·7			

Table 3.—Use of Marshland on 195 Farms, Tantramar Marsh Area, N.B., 1949.

Kind of Crop	Number Reporting	Acres	Average per Farm	Per Cent of Total	Average per Farm Reporting
Broadleaf	96	2,230	11·4	17·2	23·2
Clover, timothy and other hay	154	5,796	29·7	44·7	37·6
Oats	51	380	1·9	2·9	7·4
Pasture and waste	85	3,184	16·3	24·5	37·4
Out to sea	31	1,377	7·0	10·6	44·4
Total		12,967			
Average per farm		66·5			

areas of this marsh have been continuously protected from the sea for a relatively long period of time and these areas have developed an intensive and stable pattern of agricultural production. The dyked lands in this vicinity are widely recognized as being at present the most intensively utilized marsh areas in the Maritime Provinces.

The distribution of the main crops grown on the marshes in the Kentville-Windsor area is shown in Table 2. In comparison with other marsh areas, the proportions of these crops being grown indicate an intensity of use well above the usual. The broadleaf grass species occupied less than 2·5 per cent of the total marsh in the area, or an average of a little more than one acre per farm. The proportion of the land under improved clover and timothy hay was something over 57 per cent, this being somewhat higher than for most other areas. The main indication of intensity of marsh use in this region, however, is represented by the 18·5 per cent of the marshland which was growing vegetables and grain crops in 1949. It may be noted also that a relatively small proportion of the marshland in this area, something less than nine per cent, was out to sea and unusable in the year under review.

The Tantramar Marsh Area, N.B.—The Tantramar marshes constitute the largest continuous single body of marshland in the Maritime Provinces. This body of land is associated with the Tantramar River, the Aulac River and the Cumberland Basin and lies mostly within the province of New Brunswick. The extent of the area is not stable and fresh water bogs are encroaching upon the marshland in the northern regions. A practicable estimate of the area, as measured from topographic survey maps, would indicate that a total of

Table 4.—Use of Marshland on 98 Farms, Shepody River Marsh Area, New Brunswick, 1949

Kind of Crop	Number Reporting	Acres	Average per Farm	Per Cent of Total	Average per Farm Reporting
Broadleaf	55	943	9·6	22·2	17·1
Clover, timothy and other hay	31	913	9·3	21·5	29·4
Oats	9	30	0·3	0·7	3·3
Roots	1	1	....	....	1·0
Pasture	24	728	7·4	17·1	30·3
Out to sea	49	1,640	16·7	38·5	33·5
Total		4,255			
Average per farm		43·4			

about 30,000 acres are involved. This marshland, however, is in various states of usefulness, ranging from small well-drained cultivated areas to large tracts of meadow and partly submerged swamp.

Because of the large area of marshland, many aspects of its use are more or less peculiar to the area. All of the marsh owners live in the surrounding upland and in most cases this distance is so great as to preclude close integration of the marsh holdings with the remainder of the farm units. This situation is undoubtedly a large factor in the major importance of hay production on this land. In addition, the area of the marsh is relatively large in relation to the tillable upland on its periphery. The average size of the marsh holding of the individual operators is also relatively large, averaging about 65 acres for each of the 195 farms visited in the course of the survey. Eliminating the portion of waste and land out to sea, the average operator had about 50 acres of productive marshland. This holding is about six times the size of the average holding in the Annapolis River marsh area.

The 195 farms visited in 1949 contained almost 13,000 acres of marshland. The crop use of marshlands is given in Table 3.

The Shepody River Marsh Area, N.B.—The marshes of the Shepody River area lie along the Shepody River and at its mouth on Shepody Bay in Albert County, New Brunswick. There are about 5,000 acres of marsh in this immediate vicinity. Much of the marshland near the mouth of the Shepody River is at present unprotected and subject to flooding. At the upper end of the marsh along the Shepody River, a large area is subject to inadequate fresh water drainage and is not suited to agricultural use.

During the course of the marshland study in 1950, the marsh holdings of 98 farmers were surveyed. These holdings amounted to 4,255 acres, a relatively high proportion of the total marshland in the vicinity. In 1949, about 22 per cent of this area was growing the broadleaf grass species. About the same proportion of the total marsh was under improved clover and timothy hay species in that year. Only a negligible amount of the marsh has been cultivated for grain or root crops, there being in 1949 only 30 acres of oats and one acre of roots on the marshes surveyed. Almost 40 per cent of the total marsh was unprotected and out to sea at survey date. This is an average of a little more than 16 acres per farm studied but since the flooded area was held by only 49 farmers this group had an average of about 33 acres per farm out to sea. Over one-half of the farms in the area had some broadleaf hay, about 17 acres each on the average. The clover and timothy hay in the area was being grown on 31 of the farms studied, each having an average of about 30 acres. Exactly one-half of the farms visited in the course of the survey had some marshland out to sea in 1949, the average of such holding being about 33 acres for each of the farms concerned. The distribution of the main crops grown on the marshlands in the Shepody River marsh area in 1949 is shown in Table 4.

Summary.—The farms studied in the above areas contained about 21,470 acres of marshland in 1949. Of this acreage, about 18 per cent was out to sea in that year. A further 16 per cent was growing only the broadleaf species associated with undeveloped marsh. Only about four per cent of the total was under cultivation for grain, roots and vegetables. The remainder of the marsh surveyed was producing clover and timothy hay, or being used for pasture in 1949. Insofar as intensity of use is reflected in the proportions of land under cultivation and out to sea, the marshlands in the Kentville-Windsor area of Nova Scotia are the most intensively managed of all the areas outlined in this paper.

INTERNATIONAL TRADE IN RELATION TO CANADIAN AGRICULTURE[1]

The total land area of Canada is slightly larger than that of the United States. According to the 1941 Census, land in farms amounted to 173 million acres and was 13·5 per cent of the land area of the nine older provinces (excluding Newfoundland, Yukon and the Northwest Territories). This occupied farm land was distributed as follows: The Maritime Provinces 5·2 per cent, Quebec and Ontario 23·3 per cent, The Prairie Provinces 69·2 per cent and British Columbia 2·3 per cent. Improved land amounted to 91·6 million acres or 53 per cent of the land occupied.

The settled areas of Canada lie close to the International Boundary; one-half of the population lives within 100 miles of the United States and about 90 per cent are within 200 miles. This strip of settled area is not continuous but is broken up into various segments by wide rocky stretches, making each area distinctive in its agricultural potentialities. With the bulk of our urban population concentrated along Lake Erie, Lake Ontario and the Upper St. Lawrence River, it is only natural that many Canadian farmers look to the nearby United States markets as a logical outlet for their products.

As usual for a new country, the development of agriculture in Canada has been based on export outlets. The key markets for Canadian farm products have always been the United Kingdom and the United States. The relative importance of these two great markets has changed greatly during the past few years. While in 1938 the United Kingdom provided an outlet for 66 per cent of our agricultural exports as compared with 15 per cent in the United States, in 1950 the proportion going to the United Kingdom had fallen to 34 per cent, while 37 per cent found an outlet in the United States. The total value of agricultural exports during this period increased from 255 million dollars in 1938 to 940 million in 1949 but fell to 816 million in 1950. While 1950 witnessed a slight rise in Canada's agricultural exports to the United States, the comparative increase in importance was largely due to a falling off of exports to the United Kingdom and other sterling markets as a result of their inability to find dollars to pay for imports from Canada.

Another important factor has been an increased domestic demand. Canada's population increased by 17 per cent between 1939 and 1949; this together with the entrance of Newfoundland as the tenth province brought Canada's population to 13·5 million, and by the end of 1950 was nearly 14 million. At the same time as a result of an accelerated movement from farms to urban centres during the war and post-war period, only 25 per cent of the population now live on farms. This growth of urban population with its resultant increase in the number of cash customers for farm products, together with an all-time high in employment, has resulted in an increased domestic consumption of foods and some falling off in export supplies. This reduction has been most marked in dairy and pork products. In 1949, however, the export market took approximately 63 per cent of our production of wheat, 21 per cent of our beef cattle marketings in the form of live cattle or beef, eight per cent of our pork, 43 per cent of our cheese, 14 per cent of our eggs, 28 per cent of our apples and 13 per cent of our potatoes. The trend for 1950 was a further reduction in exports of eggs and pork products. To what extent the domestic market may continue to cut in on exports of agricultural products is difficult to say, but it is evident that for a great many products the Canadian farmer will continue to depend on the export market as an insurance against the accumulation of burdensome surpluses.

The situation is particularly important from a regional point of view. The Maritime Provinces have only two agriculutral products which are surplus to domestic requirements in any quantity. These are potatoes in New Brunswick and Prince Edward Island and apples in Nova Scotia.

Apples are a casualty of World War II. The industry was built up on the basis of the United Kingdom market but the low priority given to apples in the allocation of their precious dollars resources has created a very serious problem for farmers in the Annapolis Valley. With government financial assistance old trees and those of varieties which are not well adapted to home markets have been removed and an effort is being made to rehabilitate the industry. Shifts have also occurred in types of farming. Poultry production has greatly expanded and other enterprises have been added to the farm business to replace apples.

---

[1] Based on a talk given by S. C. Hudson at the Conference on Canadian-American Affairs held at the University of Maine on April 19-20, 1951.

The export market for potatoes is of vital concern to the St. John Valley, New Brunswick farmers as well as to those of Prince Edward Island. Potato production in these areas, dating back to 1900, was developed on the basis of the export market for seed. Production in the two provinces averaged 20 million bushels for the period 1938-47 but was somewhat higher during the past few years as a result of the stimulus of the United States potato price support level. During the past five years export of potatoes from New Brunswick and Prince Edward Island have averaged almost nine million bushels, 65 per cent of which went to the United States. Although the six million bushels of potatoes which Canada sells in the United States amount to only about 1·5 per cent of the total United States potato production, it amounts to 22 per cent of the production in New Brunswick and Prince Edward Island.

Ontario and Quebec, with over 60 per cent of Canada's population, provide the principal domestic market for the Canadian farmer. In this area tobacco is probably the product which is most dependent on an export market. There are, also, usually some exportable surpluses of cheese and concentrated milk products, hogs, poultry and eggs, beef cattle, dairy cows, and fruits and vegetables.

In the Prairie Provinces the outstanding surplus product is wheat, over 60 per cent of the production being dependent on the world market. Coarse grains, hogs, beef cattle, and oilseed crops also find their way to the export market. Butter and sheep and wool are surplus to the area but usually can be absorbed in Central Canadian markets without difficulty.

British Columbia has an exportable surplus of apples together with some beef cattle, small fruits and seeds.

Each area, therefore, has its own particular interest in the export market. This dependence on export outlets for some 30 per cent of Canadian agricultural production has had a pronounced effect on Canadian agricultural policies. This situation has been reflected particularly in Canada's agricultural price support programs in contrast to that in the United States. The dependence on exports means that Canadian farmers must be prepared to accept prices in line with those available on world markets. Furthermore the necessity of finding export markets compels Canadians to keep costs as low as possible in order to meet international price competition. The cost of subsidies to supplement export prices on agricultural products could be prohibitive in Canada where agriculture makes up a very large part of the total economic life.

During the period prior to World War II prices of most farm products in Canada differed from those in the United States by the cost of transportation and tariff. Exceptions to this situation would occur when exports were prevented by high tariff barriers or arbitrary regulations such as sanitary inspection in the case of fluid milk and cream. During the war, because of the price control program, Canadian farm prices were not allowed to rise to the same degree as in the United States. As a result of this disparity many problems arose. During the transition period it has been necessary at times to make use of export controls to prevent the movement of certain commodities, which were required at home or to fill export contracts in the United Kingdom, to the higher priced market in the United States.

The price support program in Canada has operated on an ad hoc basis rather than on a pre-determined formula as in the United States. To date this policy has met with a high degree of success. It is inevitable, however, that Canadian farmers who are dependent on an export outlet for a large part of their production must be exposed to a greater degree of price instability than those who are less subject to economic influences from outside.

CANADIAN AGRICULTURAL TRADE—1950[1]

Margaret I. Dunbabin

In terms of value Canadian trade in 1950 was at the highest level in history. The sum of imports, exports and re-exports was $6·3 billion, considerably greater than the previous record established in 1949 of $5·8 billion. The price of exports was about five per cent higher on the average in 1950 than in 1949 and there was probably no increase in the volume of goods sold abroad. Imports increased sharply in both volume and value.[2]

The traditional export surplus of merchandise, which had been maintained every year since 1932, was not again achieved—there was an adverse balance of $17 million. Total imports at $3·2 billion reached a record high and exports were of greater value only in the years 1944 and 1945.

The year 1950 was notable also for the approximate balance that was reached with the two major trading nations of the world, the United Kingdom and the United States. Since the closing decades of the last century Canada has had favourable trade balance with the United Kingdom and an unfavourable balance with the United States. This pattern of trade, which can work efficiently with free convertibility of currency, has run into many difficulties in recent years. These have been resolved in part by such expedients as Economic Co-operation Administration financed purchases, the Canadian loan to Britain and the Canadian "austerity" program, with its strict licensing of imports.

In 1950, when Canadian export and import controls applied to only a small number of commodities, exports to the United Kingdom were valued at $473 million and imports at $404 million. Exports to the United States reached $2,050 million and imports $2,130 million. The approximate balancing of trade was brought about by a combination of factors. Shortage of dollars in the United Kingdom led to a big drop in the exports to that country, the value being a third less in 1950 than in 1949. To increase the supply of earned dollars the United Kingdom made a big effort in the Canadian market and succeeded in raising the value of shipments by one-third. In the United States market boom conditions brought about by the Korean War led to the purchase of Canadian goods of a value greater than in any previous year. The relaxing of controls and the prosperity of the Canadian market similarly led to shipments of record value from the United States.

Agricultural products constitute a large part of Canada's external trade. In recent years they have made up about one-third of total exports although in 1950 the proportion dropped to one-quarter. The United Kingdom had come to be considered as the major outlet for such exports and until the decline in United Kingdom purchases as a result of exchange difficulties that country looked to Canada to supply a considerable proportion of its total imports. The preferences granted as a result of the Ottawa Agreement of 1932 were responisble for some increase in the Canadian share of the United Kingdom market. The principal commodities shipped were grains and grain products, dairy products, bacon and hams, fresh apples, and canned fruits and vegetables. During the war and in the years immediately following the United Kingdom market absorbed very large quantities of Canadian farm commodities, especially grains and grain products, meats, dairy products and eggs. By 1950, however, payment difficulties had led to the closing of the United Kingdom market to many of these products. Wheat and wheat flour accounted for the bulk of agricultural shipments from Canada. Three-quarters of the United Kingdom imports of wheat and over 80 per cent of the wheat flour were of Canadian origin. There were contracts for the supplying by Canada of bacon and cheese but by the end of the year only half the bacon and three-quarters of the cheese had been shipped, although the Canadian government, in order to encourage increased exports, supplemented the prices paid by the United Kingdom Ministry of Food. No contracts have been arranged for these products in 1951. Wheat and flour shipments are being made under the terms of the International Wheat Agreement and arrangements to ship apples of the 1950 crop were made between the United Kingdom Ministry of Food and the marketing boards in Nova Scotia and British Columbia. United Kingdom trade, with the ending of E.C.A. financing and the cancellation of the remaining part of the Canadian loan, is now on a pay-as-you-go basis.

---

[1] All figures quoted in this article are based on statistics published by the Dominion Bureau of Statistics in the Trade of Canada. In the tables, however, the commodity breakdown used was worked out by the Economics Division.

[2] Budget speech. *Hansard*, April 10, 1951. p. 1799.

Table 1.—Exports of Canadian Agricultural Products All Countries, United Kingdom and United States 1949 and 1950

	1949			1950		
	Total	U.K.	U.S.A.	Total	U.K.	U.S.A.
	Thousand Dollars			Thousand Dollars		
TOTAL TRADE	2,992,961	704,956	1,503,459	3,118,387	469,910	2,020,988
TOTAL—AGRICULTURAL PRODUCTS	940,091	403,438	258,257	816,167	275,548	301,995
Grains	499,430	280,762	69,527	378,849	173,651	73,955
Grain Products	112,239	47,249	9,375	114,431	41,446	14,232
Oilseeds and Products	29,303	....	926	19,053	158	2,048
Animals, Living	63,652	26	62,765	82,774	6	82,082
Meats	66,510	23,398	32,274	74,276	24,401	43,979
Other Animal Products	44,001	6,861	27,859	47,567	5,579	36,337
Dairy Products	30,102	15,231	2,029	27,582	15,073	1,890
Poultry and Eggs	27,717	18,154	7,941	8,356	2,398	4,241
Fruits and Nuts	13,194	2,719	9,413	15,343	3,686	11,315
Vegetables[a]	3,700	445	2,365	5,086	426	3,816
Potatoes	12,419	....	9,438	8,540	....	5,972
Maple Products	4,282	....	4,282	4,149	....	4,115
Tobacco, Raw	8,617	7,347	11	10,552	8,320	....
Seeds for Sowing	18,356	889	14,883	12,615	97	11,961
Other Vegetable Products	6,569	357	5,169	6,994	307	6,052

[a] Excluding potatoes.

The United States' market for Canadian agricultural products increased sharply in 1948 after the removal in August of that year of the embargo on the shipment south of Canadian cattle and beef. Exports of beef and veal to the United States, which were valued at $17,000 in 1947, rose to over $26·3 million in 1948. Cattle exports increased from $13·6 million to $74·4 million in the two years. Trade in agricultural products has been well maintained and in 1950 exports to the U.S.A. were of greater value than those to the United Kingdom (Table 1). This trade with the United States, in contrast with that with the United Kingdom, is a two-way street. By reason of its geographical position the United States produces many commodities not grown in Canada or raised in insufficient quantities to satisfy domestic demand. In recent years cotton has accounted for nearly a quarter of Canada's agricultural imports from the United States. Other large items have been citrus fruits, winter vegetables, soybeans, corn and cottonseed oil. Exports to the United States have covered the whole range of Canadian agricultural production but the mainstays have been live animals, fresh meats and seeds, including seed potatoes (Table 2).

Trade between the two countries has been stimulated by the trade agreements of 1935 and 1938 and by tariff reductions granted and received at Geneva in 1947 under the General Agreement on Tariffs and Trade. As a result of the 1947 negotiations the United States made 50 per cent reductions (the maximum that could be granted under the United States Reciprocal Trade Agreements Act) on such important commodities as wheat, wheat flour, barley, oats, certain clover seeds, live poultry and beef and veal. Increases were made in the quantities of light and heavy cattle and of certified seed potatoes which could be imported at half the full rate of duty. Some indirect tariff concessions were received as a result of the GATT meetings at Annecy in 1949. There were no direct negotiations at this conference between Canada and the United States but they each made concessions to the acceding countries and these concessions became applicable to all contracting parties through the most-favoured-nation principle, which is one of the bases of the General Agreement. At Torquay (September 1950-March 1951) direct negotiations have taken place between the two countries.

Although most of Canada's trade in agricultural products has been directed either to the United Kingdom or the United States important markets and sources exist in other countries. Canada must import tea, coffee, rubber, and other tropical products. Canadian wheat, flour, oat products, canned meats, seed potatoes and forage crop seeds are among the commodities that have found a place on the world market. This trade is at present hampered by restrictions arising from exchange difficulties but Canada is taking an active part in international attempts to liberalize trade. Negotiations which have taken place under the General Agreement on Tariffs and Trade at Geneva in 1947, Annecy in 1949 and Torquay in 1950-51 have resulted in a number of tariff reductions or bindings of the existing duties. The individual negotiations take place on a bi-lateral basis but all Canadian reductions apply equally to the other contracting parties. Similarly any reductions made by other countries party to the Agreement apply to duties on imports of Canadian origin.

Table 2.—Balance of Trade between Canada and the United States
Total and Principal Agricultural Products
1949 and 1950

—	1949		1950	
	Into Canada	From Canada	Into Canada	From Canada
	Thousand Dollars		Thousand Dollars	
Total Trade	1,951,860	1,503,459	2,130,476	2,020,988
Total—Agricultural Products	208,908	258,257	262,517	301,995
Principal Agricultural Products—				
Barley	97	20,970	78	19,437
Corn	12,282	329	16,234	217
Oats	237	15,093	245	14,977
Wheat	19	16,997	1	28,486
Soybeans	5,462	....	12,139	....
Cottonseed oil	8,361	....	12,465	....
Cattle	421	60,676	425	78,488
Beef and veal	65	28,284	74	32,944
Hides and skins, raw	9,937	5,118	9,153	9,136
Furs, undressed	15,204	17,294	16,828	19,442
Live poultry	9	5,216	4	1,785
Apples	370	3,664	300	5,258
Citrus fruits	19,622	....	17,740	....
Fruit juices	6,843	379	7,828	168
Vegetables, fresh[a]	13,706	2,262	18,733	2,682
Potatoes, table	873	1,605	2,185	2,006
Potatoes, seed	7	7,833	22	3,966
Clover and grass seeds	904	11,466	1,822	11,218
Cotton, raw	50,862	....	68,502	....

[a] Excluding potatoes.

Note: The totals for "Agricultural Products" include the trade statistics of all important agricultural commodities produced in either country and foods and industrial raw materials derived from these agricultural products.

Canada in 1950 also negotiated trade agreements outside GATT. During the year a mission visited Latin America and renewed lapsed agreements with Venezuela, Ecuador and Costa Rica. These provide that each country is to extend to the other most-favoured-nation treatment. In addition certain reductions in duty, as provided for in trade agreements with the United States, are being granted to Canada. In the Venezuelan tariff, processed fruits and vegetables, candies, and unsweetened biscuits are among the list of products on which the reduced duties apply. Agricultural items in the tariff of Costa Rica on which duties have been lowered include fresh apples, oatmeal and rolled oats, powdered and evaporated milk and canned fruits and vegetables. The agreement with Ecuador has removed the 50 per cent surtax which has been levied on most Canadian goods since 1936.

In the British West Indies, source of much of Canada's raw sugar, a trade liberalization plan went into effect on January 1, 1951. This provides that Canadian exporters can obtain import licenses for specified commodities equal to 50 per cent or 33⅓ per cent of average exports to individual colonies during the years 1946-48. In these three years Canadian exports to these British colonies were at a very high level. Since then currency difficulties have caused a big reduction in shipments. In the base period 1946-48 total exports to the British West Indies averaged nearly $63 million and exports of agricultural products $32 million. Minimum import licenses of not less than 50 per cent of the 1946-48 average exports may be granted for the following agricultural commodities: meats, 1946-48 average exports, $3,200,000; milk products, 1946-48 average exports, $4,500,000; feeding stuffs, 1946-48 average exports, $700,000. Import licenses up to one-third of the 1946-48 average exports may be given for processed fruits and vegetables, prepared cereal foods, macaroni, fresh apples and malt. The total value of Canadian exports to the colonies of these commodities in 1946-48 averaged over $800,000. Wheat flour and tobacco which find a ready market in the British West Indies are two important products not included in the scheme.

An expanding home market is tending to absorb the output of Canadian farms. The major commodity remaining on an export basis is wheat. Unless there is expansion of production, it may be expected that the quantities of most other agricultural commodities available for export will decline.

CONSUMER TASTE PREFERENCE FOR CHEESE AT THE ROYAL WINTER FAIR[1]

During the Royal Winter Fair at Toronto (November 14-22, 1950) exhibits of various types of Ontario cheese products were attractively displayed at the booth of the Ontario Cheese Producers Marketing Board as well as by other members of the industry. The Economics Division arranged with the Ontario Cheese Producers' Marketing Board to conduct two experimental studies, one of which included the casting of ballots by about 5,200 people with respect to their taste preference for certain types of cheese; the other resulted in about 1,000 persons voluntarily filling out a brief questionnaire relative to their buying and eating habits for cheese.

Since the studies were limited to the visitors at the Royal Winter Fair, it is assumed that the data referred more particularly to the consumers in the Toronto market area. It is further expected that the information is confined mainly to those consumers who include cheese as a part of their diet.

Method and Procedure.—Ballots were prepared with instructions to mark with an "X", the person's choice of A, B or C types of cheddar tasted. These types of cheese were not named on the label but were coded as follows:

A—New to medium (mild) uncoloured cheddar
B—New to medium (mild) coloured cheddar
C—Old uncoloured cheddar

Each person was also requested to indicate his age and title, Mr., Mrs., or Miss. These ballots were then dropped in the ballot box. Approximately 240 pounds of

---

[1] Prepared by W. C. Way.

Table 1.—Preference for Certain Types of Cheddar Cheese by Sex, Expressed as a Per Cent of Number of Ballots Cast[a]

—	All Ballots	Male	Female	Sex not Indicated
	per cent			
Old, uncoloured (C)	48	48	49	44
Mild, coloured (B)	32	32	32	37
Mild, uncoloured (A)	19	19	18	18
No preference	1	1	1	1
Total	100	100	100	100
Total number of ballots	5,236	2,068	2,814	354

[a] Survey data, ballots cast at Royal Winter Fair, Toronto, 1950.

cheese in one-half ounce cubes were given away to approximately 6,000 visitors and 5,236 ballots designating the consumer's preference were collected. Ballots were tabulated by sex, age and preference of cheese.

A self-explanatory type of questionnaire was taken in the second study with a minimum of supervision. Most of the seven questions on eating and buying habits were answerable by circling or checking the appropriate term. Other information obtained referred to sex, age, city or town, and occupation. Questionnaires were tabulated by sex, age, city or town, and occupation. Analysis of results was limited to counts and percentages.

Results of Consumer Preference Ballots.—Fifty-two hundred people cast ballots indicating their preference for one of the three samples of cheddar cheese (Table 1). Of this total 48 per cent indicated a preference for old Canadian cheddar cheese, 32 per cent for coloured mild cheese and 19 per cent for uncoloured mild cheese. The remainder, less than one per cent indicated no preference. The percentage preference distribution of each sex was almost identical.

In the age group 21 to 40 years, 52 per cent indicated a preference for old cheddar, 29 per cent for coloured mild, and 18 per cent for uncoloured mild cheddar (Table 2). In the age group 41 to 60 years, 57 per cent indicated a preference for old cheddar, 26 per cent coloured mild and 16 per cent uncoloured mild cheese. The tendency of older people to prefer more mature cheese was further indicated in the age group above 60 years in which 56 per cent of the voters indicated a preference for old cheese. In the group under 20 years of age, 47 per cent indicated a preference for mild coloured cheddar, 29 per cent for old, and lastly, 23 per cent for mild and

Table 2.—Preference for Certain Types of Cheddar Cheese by Age Groups Expressed as a Per Cent of Number of Ballots Cast[a]

Cheddar	Total Number of Ballots	Under 20 Years	21 to 40 Years	41 to 60 Years	61 Years and Over	Age not Indicated
		per cent				
Old, uncoloured	2,533	29	52	57	56	48
Mild, coloured	1,687	47	29	26	28	32
Mild, uncoloured	968	23	18	16	15	19
No preference	48	1	7	1	1	1
Total	5,236	100	100	100	100	100
Number of ballots	5,236	1,047	1,444	1,445	426	874
Per cent	100	20	28	28	8	16

[a] Survey data, ballots cast at Royal Winter Fair, Toronto, 1950.

uncoloured. The proportion showing a preference for uncoloured mild cheese decreased in each successive age group—from 23 per cent in the under-20 year age group to 15 per cent in the over-60 year age group.

Questionnaire on Buying and Eating Habits.—Of the 967 people who answered the questionnaire on buying and eating habits for cheese, 60 per cent lived within the Toronto market area, 35 per cent were visitors from other Ontario districts, and the remaining 5 per cent came from other provinces of Canada and the United States. The proportion of men to women was 4 to 6. Eight of every ten respondents were adults and two out of every ten were under 20 years of age.

Of those who answered the question "Do you buy cheese?"[1], 83 per cent bought cheese regularly, 13 per cent occasionally and four per cent never or rarely. The main reasons given by these people as to why they bought cheese are listed in Table 3.

Table 3.—Reasons Given as to Why People Bought Cheese

Reason	Per Cent
1. Because I like it	41
2. Because of its food value	25
3. Because of its taste and flavour	10
4. Because of diet and health purposes	9
5. Handy for lunches and snacks	4
6. Used for all general purposes	2
7. Economy and price	2
8. As meat substitute	2
9. Habit	1
10. Other reasons	4
Total	100

The first reason listed may well be considered to be a spontaneous reply that people give to justify purchasing cheese regularly.

Only 60 per cent or 575 of the 967 respondents limited themselves to only one answer to the question "Which kind of cheese do you prefer?" Of these 575 respondents, 62 per cent indicated a preference for cheddar, 17 per cent cottage, 12 per cent processed, and the remaining nine per cent preferred in order of frequency, limburger, Rocquefort, blue-veined, Oka and other fancy cheeses (Gruyere, Gouda, Swiss). Two hundred and thirty of the respondents (or 24 per cent of the total 967) checked two kinds of cheese between which no preference was indicated. Of these, 190 checked cheddar, 105 cottage, and 83 processed. The remaining 16 per cent of the respondents either failed to answer this question or checked three or more kinds of cheese. These people may be regarded as having no strong preference for any one type of cheese. Errors in these data may exist since in many instances people asked questions on types of cheese, indicating that they did not understand what was meant by the term "processed" or the difference between cheddar and processed cheese.

About three times as many respondents indicated a preference for coloured, as compared with uncoloured cheese. Almost 100 of the respondents indicated that they had no colour preference. The main factor influencing their choice in this question was eye-appeal, 63·4 per cent. Ten per cent of those giving reasons indicated their colour preference was based on taste and flavour. Seven per cent stated that colouring adds no food value to cheese or that uncoloured was "more natural" or "more pure". The remainder of those giving reasons for colour preference based them on their likes and dislikes, and eating habits. A few people stated they did not know why they preferred one to the other. A similar preference for coloured cheese was also indicated by the ballot-vote (Table 1).

---

[1] Those who did not buy cheese themselves indicated whether their family bought cheese regularly, occasionally, rarely or never.

Table 4.—Distribution of Various Suggestions on How to Increase the Consumption of Cheese in Canada

Suggestion	Per Cent
Advertise and display	25
Price[a]	11
Provide recipes	9
Education on food value	9
More and better production	8
Improve quality	8
Improve packaging	6
Improve marketing methods	6
Use more in school lunches, restaurants	4
Eat more	3
Novel competition schemes	3
Other suggestions	8
	100

[a] The suggestions included under the item *price* are: lowering prices; and adjusting the relative prices between different kinds of cheese or between cheese and other dairy products.

In their choice of various maturities of cheddar, 41 per cent indicated they bought old and 39 per cent medium cheese. Only 18 per cent bought new mild cheese and two per cent bought all ages of cheddar.

About 54 per cent of the 967 respondents answered "yes" to the question, "If your preference (for old, medium or new cheddar) is not available, would you buy another cheese?" The majority of the 17 per cent who said they would not, preferred to buy old, nippy cheddar. The people who did not answer this question represented 29 per cent of the total.

Respondents indicated that the most of them purchased about one-half to one pound of cheese per week. Of those who answered this question, two per cent bought less than one-half pound per week, 33 per cent about one-half pound, 43 per cent about one pound, 14 per cent about two pounds, and six per cent three or more pounds. Two per cent of the respondents indicated irregular weekly purchases.

To the question "How would you increase the consumption of cheese in Canada?", the main suggestions included advertising and display, price, education on food values of cheese, production, quality and other factors affecting the marketing of cheese. (Table 4).

AGRICULTURAL PRICE POLICIES

On April 27, 1951, the Minister of Agriculture announced the price support program for butter and cheese. The Agricultural Prices Support Board, through the Dairy Products Board, will be prepared throughout the dairy years 1951-52 and 1952-53 to purchase butter at 58 cents a pound, basis No. 1 creamery solids Montreal.

As regards cheese, it has been decided that it would be advisable that producers and the trade be encouraged to market their cheese. The Federal Government has agreed to cover the risk of carrying and marketing cheese up to 28 cents a pound by agreeing to have the Agricultural Prices Support Board arrange for the taking over of all first grade Canadian cheddar cheese at a price of 28 cents per pound f.o.b. Montreal, plus storage charges from the date of storage to the date of delivery to the Board. The Board reserves the right to specify the time of delivery which will be not later than January 1st, 1952.

Initial prices for the 1951-52 crop year for wheat, oats and barley were announced on May 4, 1951. The initial payment for wheat for the crop year 1951-52 will be $1.40 per bushel basis No. 1 northern wheat in store Fort William-Port Arthur or Vancouver. This is the same initial payment which prevailed at the beginning of the present crop year, but below the current payment of $1.60.

The initial payment for oats for 1951-52 shall also be at the same level as at the beginning of the 1950-51 crop year, 65 cents per bushel for No. 2 Canada western oats in store Fort William-Port Arthur. With respect to barley, the initial payment will be 96 cents per bushel for No. 3 Canada western six row barley, basis in store Fort William-Port Arthur. This is three cents per bushel higher than the initial payment which was effective for that grade at the beginning of the present crop year. When the grade spreads are announced next August, however, it is not expected that the initial payments for the feeding grades of barley will show any increase. The reason for advancing the initial payment for No. 3 C.W. six row barley is to provide for a more realistic premium for the malting grades over the feeding grades, without necessarily reducing the initial payments for the feeding grades.

REVIEW OF LITERATURE

Demographic Yearbook 1949-50. Prepared by the Statistical Office of the United Nations, Dept. of Economic Affairs, Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto). 1951. pp. 558.

This second issue of the *Demographic Yearbook*, which contains more than 400 pages of tables, represents a considerable gain in geographic coverage over the first issue. It presents a comprehensive collection of population, migration and vital statistics relating to every country and geographic unit of the world for which such statistics are available, as well as an extensive bibliography of demographic statistics, an explanatory text in English and French, and a set of maps identify the areas for which data are shown.

The detailed tables of the *Demographic Yearbook* present statistics for the individual countries on a variety of specific topics. The major emphasis in this edition is on statistics of natality and marriage. In the 21 tables dealing with these subjects, data are given for varying numbers of countries, four of them presenting statistics for more than 100 countries. In addition to the basic data showing trends in births and general birth rates, marriages and general marriage rates, since the early 1930's, there are statistics of births by age of mother, age of father, duration of marriage, and order of birth. There are also statistics of marriages by age of bride and groom—with rates for each sex, and by previous marital status (single, widowed or divorced) of bride and groom. One table gives recent census statistics on the marital status of the adult population by age, and the percentage of bachelors or spinsters of each age. Another table gives ratios of children under five years of age to women in the child-bearing ages, as derived from censuses taken since 1900. These children-to-women ratios reflect differing levels of natality in various times and places.

Other tables give current statistics on the total population, area and density of the more than 250 countries and territories that comprise the inhabited world; some preliminary results of the 1950 censuses; annual rates of population growth over the last half-century; statistics on the age and sex distribution of the population; and data on the working population classified by industry or occupation and by sex.

One group of tables presents statistics of mortality, including general death rates, infant mortality rates and age-specific death rates over a period of some 10 to 18 years ending with 1949.

Figures on international migration give some indication of population shifts across national boundaries during the postwar years.

A chapter on the world population trends summarizes the situation in the various regions of the world, with respect to the number of inhabitants, density, age composition, birth rates, death rates and natural increase. According to this summary the population of the world is estimated at nearly 2·4 billion in 1949. This represents an increase of more than half a billion over the figure estimated for 1920, or an average rate of slightly less than one per cent per year. Latin America appears to be the fastest-growing part of the world according to this data. There, relatively high birth rates and improved mortality conditions have combined to produce a rather high rate of natural increase (about two per cent per year). In other parts of the world, high birth rates in combination with high death rates, or low birth rates in combination with low death rates, have resulted in somewhat lower growth rates (between ·8 and 1·5 per cent per year).

For the business executive, insurance actuary, social scientist, teacher and student, the United Nations *Demographic Yearbook 1949-50* is an international source-book of continuing importance and value on the world's population and its trends.

Statistical Yearbook 1949-50. Prepared by the Statistical Office of the United Nations. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto). 1951. pp. 556.

The Statistical Yearbook 1949-50 is the second issue of the Yearbook prepared by the Statistical Office of the United Nations in collaboration with the specialized agencies of the United Nations, other inter-governmental organizations and the national statistical offices of the various countries.

In addition to a very wide field of economic and financial statistics the Yearbook also includes statistical data relating to population and to social and cultural subjects. This extensive collection of international data is presented in 166 tables, supplemented by appendices—showing conversion factors and the principal subjects treated in international statistical yearbooks—and alphabetical subject and country indexes.

The Statistical Yearbook contains data on some 250 countries or territories. The Yearbook is bilingual throughout, all titles, notes and text being given in both English and French.

It is divided into the following five major sections:

Production.—The Yearbook shows the annual production of over 100 individual commodities—foodstuffs, minerals and manufacturing articles—in virtually all the producing countries and for each of the years 1930 to 1949.

Transport and Communication.—Transportation statistics cover railways, motor vehicles, merchant shipping, inland water-ways, civil aviation and tourist travel. The chapter on communications contains tables on letter mail, telegraph service, telephones and broadcasting stations.

External Trade.—In the chapter on external trade, the Yearbook presents a table on the value in national currencies of the imports and exports of nearly 140 countries or practically the whole trading world.

Medical Facilities.—Statistics relating to social subjects deal with social security, housing and medical personnel and hospital beds. The last-named table, introduced for the first time in this issue of the Yearbook, shows for over 100 countries or territories available prewar and postwar data on the number of physicians, nurses, midwives, inhabitants per physician and number of hospital beds by type of hospital.

Newspapers.—There are tables on illiteracy, educational establishments, newsprint consumption and daily newspapers. The two last-named tables cover some 60 countries and give data on newsprint consumption, both total and per capita, and on the number of daily newspapers, their total circulation and the number of copies for 1,000 population.

In addition to the subjects already mentioned the *Statistical Yearbook* provides extensive international data on population trends, manpower, agricultural and industrial production, construction activity, balances of payments, wages and prices, national income, money and banking and public finance. Basic economic information such as manpower resources, land use, livestock population, structure of manufacturing industry and existing transport equipment are given in the Yearbook as are also summaries of the various national budget accounts and public debt statements, exchange rates, money supply, gold holdings, domestic credits of banks, bond yields and industrial share prices.

This United Nation's publication in an excellent source book, useful to the researcher in government, universities and private organizations. For those in agriculture there is a separate section on agricultural production, and additional statistical material in the sections on manufacturing and external trade.

Eucken, Walter. *The Foundations of Economics.* Chicago, University of Chicago Press. 1951. pp. 358.

The book is divided into three main parts: *The First Main Problem of Economics; A Critique of Economics; a Second Main Problem;* and, *Scientific Understanding of Economic Reality.* This is the first English translation of a work that had six editions in the original German.

The book deals with the basic problem: how can the study of economics be raised to the level of a science? The central theme, the dual aspect of economic problems which has led to a dual approach to them, one historical, the other theoretical, is, of course, an old one. However, according to Professor Lutz, "Although this book deals with a methodological problem the reader will find it very different from the standard type of treatise on methodology."

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS

FRANK SHEFRIN, Editor

AUGUST 1951 **Vol. XXI, No. 4**

CONTENTS

Page

The Economic Situation 75

Canadian Agriculture and the Tariffs and Trade Negotiations at Torquay 1950-51 ..... A. E. Richards 77

Trends in Rural Population in Canada with Particular Reference to the Maritime Provinces ..... J. Coke 85

Farm Organization in the Carman, Morden, Winkler and Altona Districts of Manitoba ..... O. P. Blaich 91

Review of Literature 95

MARKETING SERVICE, ECONOMICS DIVISION

J. F. BOOTH, Chief

Published by Authority of the Right Honourable James G. Gardiner,
Minister of Agriculture

ANNUAL AND MONTHLY INDEX NUMBERS (a)

Wholesale Prices, Farm Prices and Living Cost Indexes

Year	Wholesale Prices 1935–39 = 100				Farm Prices of Agricultural Products 1935–39 = 100 (e)	Commodities and Services used by Farmers 1935–39 = 100		Cost of Living 1935–39 = 100	
	(b) General Wholesale Index	(b) Farm Products	(c) Field Products	(d) Animal Products		(f) Equipment & Materials	(g) Eleven Factor Index	(h) Farm Living Costs	(i) Urban Living Costs
1913	83·4	...	...	...	...	85·4	...	80·1	79·1
1914	85·4	...	...	...	...	90·2	85·3	82·3	79·7
1915	91·8	...	...	...	...	96·9	91·6	86·5	80·7
1916	109·8	...	...	...	...	101·7	100·5	93·7	87·0
1917	148·9	...	...	...	...	140·7	140·5	111·5	102·4
1918	166·0	...	...	...	...	164·1	160·2	131·1	115·6
1919	174·7	...	...	...	...	169·1	167·9	143·0	126·5
1920	203·2	...	...	...	...	190·1	186·5	171·3	145·4
1921	143·4	...	...	...	...	147·4	152·5	139·9	129·9
1922	126·8	...	...	...	...	124·6	134·1	127·9	120·4
1923	127·7	...	...	...	...	118·3	130·6	128·3	120·7
1924	129·5	...	...	...	...	122·3	131·9	125·5	118·8
1925	133·8	...	...	...	...	123·2	131·8	123·9	119·8
1926	130·3	144·4	158·5	130·2	...	119·9	130·6	121·1	121·8
1927	127·3	138·6	149·4	127·8	...	119·9	131·2	119·8	119·9
1928	125·6	136·3	134·3	138·2	...	118·3	129·3	118·5	120·5
1929	124·6	140·8	137·2	144·4	...	117·6	127·9	117·3	121·7
1930	112·9	119·5	105·8	133·3	...	105·6	117·0	113·7	120·8
1931	94·0	78·9	65·0	92·7	...	92·2	100·9	103·9	109·1
1932	86·9	65·5	60·4	70·5	...	89·3	93·3	97·8	99·0
1933	87·4	69·3	69·3	69·2	...	88·8	89·8	95·8	94·4
1934	93·4	83·5	80·5	86·5	...	96·8	95·5	97·9	95·6
1935	94·4	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	96·7	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	107·8	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·0	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	99·2	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	108·0	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	116·4	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	123·0	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	127·9	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	130·6	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	132·1	166·4	162·5	170·2	185·7	125·9	152·1	123·2	119·5
1946	138·9	179·5	177·9	181·2	204·1	128·0	157·0	127·1	123·6
1947	163·3	192·2	184·1	200·2	215·8	139·5	170·4	138·3	135·5
1948	193·4	232·1	200·6	263·7	255·8	173·1	197·4	162·8	155·0
1949	198·3	228·7	191·9	265·4	255·4	180·3	204·1	173·2	160·8
1950	211·2	233·0	184·6	281·4	255·2	189·9	210·4	177·6	166·5
1950									
May	204·7	234·1	195·4	272·8	255·5	...	...	...	164·0
June	209·2	243·4	197·7	289·1	264·2	...	...	...	165·4
July	212·0	246·8	197·2	296·4	268·2	...	...	...	167·5
Aug.	215·7	236·3	174·2	298·5	261·1	194·3	218·7	180·7	168·5
Sept.	222·6	234·9	172·6	297·1	256·1	...	...	...	169·8
Oct.	220·0	228·5	170·2	286·8	248·6	...	...	...	170·7
Nov.	222·4	230·4	170·3	290·5	251·4	...	...	...	170·7
Dec.	225·2	234·5	170·6	298·4	256·0	...	...	...	171·1
1951									
Jan.	232·3	242·2	173·5	310·9	261·3	201·0	216·9	184·1	172·5
Feb.	238·5	253·7	177·9	329·6	271·9	...	...	...	175·2
Mar.	241·8	264·2	181·2	347·2	280·9	...	...	...	179·7
April	242·2	256·6	181·6	331·6	278·9	209·6	232·5	197·1	181·8
May	241·9	256·5	177·0	336·1	280·0	...	...	...	182·0
June	242·7	263·8	174·4	353·1	...	...	...	...	184·1

(a) **Revised each issue.**

(b) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo.) Ottawa, Monthly Wholesale prices of products of Canadian farms.

(c) Ibid (b). Wholesale prices of grains, hay, tobacco and potatoes.

(d) Ibid (b). Wholesale prices of animals and animal products.

(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo.) Ottawa, Monthly.

(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo.) Ottawa, Jan., Apr., and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.

(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.

(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.

(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

THE ECONOMIC SITUATION

Canada's projected capital expenditures in 1951, based on a mid-year estimate, are expected to be $4,561 million, an increase of five per cent, or $233 million, over expenditures anticipated at the beginning of the year.

The new figure of total capital expenditure for 1951 is 20 per cent above that for last year. However, at least half of this increase may be attributed to higher prices. Within the total program, estimated outlays for new construction now stand at $2,724 million, an increase of two per cent over the first estimate for this year, and 16 per cent above that for 1950. Machinery and equipment expenditures, now estimated at $1,837 million, are 11 per cent above the first 1951 estimate and 28 per cent above that for 1950.

More than half of the increase over the first 1951 estimate is in manufacturing. The non-ferrous metals products group is up $44 million; petroleum and coal products, $15 million; chemicals, $15 million; non-metallic mineral products, $7 million; paper products, $13 million; iron and steel, $10 million; and the transportation equipment industry, $7 million. About 77 per cent of these increases are for machinery and equipment, and the remainder for construction.

Almost the entire increase over the earlier estimate in projected capital outlay for 1951 has taken place within the business sector of the economy. Expenditures in the nonbusiness sector, such as institutions, government departments and housing, are relatively unchanged.

A comparison of the revised 1951 estimates with actual expenditures in 1950 indicates a substantial increase in the capacity of industries which occupy a key position in Canada's industrial structure.

The upward revision in the overall program has taken place concurrent with the implementation of government measures to discourage the use of resources for non-essential investment. Reductions in outlays for relatively less essential purposes have been more than offset by the expanding programs of industries which are essentially defence-supporting in nature.

On the whole, the changing pattern of investment plans indicates a redirection of productive resources toward a broadening of Canada's industrial base and a strengthening of the nation's defence potential.

Current Situation.—The high rate of capital expenditure, heavy consumer buying, increased defence expenditures, and a strong export demand are insuring continual pressure on Canada's available productive capacity. Production and employment are above the 1950 level and unemployment is considerably lower than in the same period in 1950.

Employment and Payrolls.—There was a further rise in industrial employment and payrolls at the beginning of May. Marked seasonal curtailment was noted in employment in logging in the Eastern and Central Provinces, but the trend in many other industries, notably construction, was upward at the beginning of May. The advance index number of employment, on the base 1939=100, stood at 175·2 as compared with 173·3 at April 1, and 159·7 at May 1 in both 1950 and 1949. Per capita weekly earnings of men and women on the staffs of the larger firms in the industrial groups reached a new high at $49·17 as compared with $48·43 at April 1, and $44·88 at May 1, 1950.

Department Stores Sales.—These sales in Canada—excluding Newfoundland—rose four per cent in dollar value in May over a year earlier, totalling $76,613,000 as against $73,581,000. The month's gain compares with increases of 11 per cent in April and 13 per cent in the four months ending April over the same periods of 1950.

Cheques Cashed. — Financial transactions in the form of cheques cashed continued to rise in May, amounting to $9,483,763,000 as compared with $7,989,758,000 in May last year, a gain of 18·7 per cent. This raised the aggregate for the first five months of this year to $44,315,779,000—the highest on record—against $36,469,576,000 in the same period last year, or by 21·5 per cent. Increases were recorded in each of the five economic areas both in the month and cumulative period.

Exports.—Canada's domestic exports in May, continuing the trend of earlier months, showed a substantial gain in value over last year, most of the total advance being due to an increase in the value of shipments to the United States, bolstered by further gains to Latin America and other foreign countries, except Europe. These were only partly offset by decreases to the United Kingdom, other Commonwealth countries and Europe.

Total shipments in the month were valued at $323,400,000, an increase of $36,400,000 or 12·6 per cent over last year's unusually high May value of $287,000,000. The May total showed the usual seasonal advance, being substantially above the values for April and the preceding months. Cumulative value for the five months ending May rose to $1,427,700,000 as against $1,141,400,000 for the like period last year, an increase of 25 per cent. There was a more varied pattern of changes in the values of the commodity groups in May than in the preceding months. Marked gains in the wood and paper and in the animals and animal products groups made the major contribution to the overall increase.

Cost-of-Living.—The Dominion Bureau of Statistics cost-of-living index increased from 182·0 to 184·1 between May 1 and June 1. Approximately two-thirds of this increase of 2·1 points or 1·2 per cent was contributed by higher food prices. The food index moved up from 235·4 to 239·8, as a result of advances in eggs, butter, pork and fresh vegetables, coupled with smaller increases for numerous other items.

In the homefurnishings and services group increases were fairly general, although higher prices for hardware and electrical equipment accounted for most of the change in this index from 194·9 to 197·1. In advancing from 201·5 to 202·5, the clothing series recorded the smallest advance since the beginning of the year. Changes in the group were small and scattered.

The index of miscellaneous items rose 0·3 points to 141·0, following the slight increases in health care, gasoline and street-car fares. Reflecting the results of a June rental survey, the rent index advanced from 137·6 to 139·8. The fuel and light index remained unchanged at 146·2.

From August 1939 to June 1951, the increase in the cost-of-living index was 82·6 per cent.

Agriculture.—Reflecting a strong domestic and export demand, prices received by farmers for their products during the first five months of 1951 were at substantially higher levels than those received during the same period in 1950. Farm prices rose continuously from October 1950 to March 1951, declined slightly in April, and rose again in May. Prices of livestock and livestock products have, in the main, been responsible for this marked upward movement.

Preliminary estimates by the Dominion Bureau of Statistics indicate that during the first quarter of 1951, Canadian farmers (excluding Newfoundland) received $477·5 million from the sale of farm products and from grain adjustment and participation payments on previous years' crops. This estimate compares with $421·1 million in 1949 and $411·2 million in 1950. In addition, supplementary payments made to farmers under the provisions of the Prairie Farm Assistance Act amounted $7·9 million during the January-March period of 1951 compared with $8·8 million and $12·7 million paid out during the respective periods of 1949 and 1950.

The increase in cash income for the first quarter of this year can be largely attributed to three factors. First of all, marketing of grains during this period were considerably higher than for the corresponding period a year ago as a result of larger crops in 1950 and adverse harvesting conditions which delayed deliveries during the fall months. Secondly, payments made by the Canadian Wheat Board amounted to approximately $18·0 million during the first three months of this year as against $4·7 million in the same period in 1950. Cheques issued by the Board were largely for adjustment payments made in connection with the increase in the initial price of oats and barley effective February 1, 1951 and retroactive to August 1, 1950. Finally, livestock prices which established some record high levels during the January-March period 1951 more than offset a general decline in marketings.

Prices of commodities and services used by farmers have also risen. Between April 1950 and April 1951 the increase was six per cent, and between January 1951 and April 1951, seven per cent. Farm living costs also increased.

The sharp upward adjustment of nearly 17 per cent in farm wages between January and April of this year was, in the main, responsible for the increase of prices paid by farmers, although all other items making up the index showed some increase.

CANADIAN AGRICULTURE AND THE TARIFFS AND TRADE NEGOTIATIONS AT TORQUAY 1950-51

A. E. Richards[1]

Probably the most important and significant achievement at Torquay was the undertaking by countries which had negotiated tariff reductions at Geneva in 1947 and at Annecy in 1949 to renew practically all existing concessions for a three year period up to January 1, 1954. This was important because the extent and depth of the tariff cuts at Geneva had been substantial. It was significant because the General Agreement had experienced a testing period and had passed the test. These countries decided that it was mutually advantageous to carry on their trade at the lower tariff level and that tariff stability for another three years was desirable.

Under the provisions of the General Agreement a member country has the legal right to withdraw or modify a concession if the country or countries from which the concession is withdrawn are compensated and satisfied with the change. Compensation usually takes the form of tariff concessions on alternative products. This right was exercised only to a limited extent at Torquay. The number of tariff items affected was relatively small. At Geneva and Annecy tariff concessions had been negotiated on 50,000 items. The withdrawals or modifications affected only 295 items. In all cases satisfactory compensation was awarded to the countries having a substantial trading interest in the items. In no case was there recourse to retaliatory withdrawals.

A second achievement at Torquay was the entry of six new countries into the General Agreement. They are the German Federal Republic, Peru, the Philippine Republic, Turkey, Austria and Korea. These countries qualified by reducing their customs tariffs to levels which members agreed, by a two-thirds majority vote, were satisfactory.

Torquay registered the third round of tariff negotiations under the General Agreement. It was the fourth round of tariff negotiations between Canada and the United States since 1935. For that reason much of the reserve bargaining power in the customs tariffs of many assembled countries had been almost exhausted.

In the early part of 1950 before the outbreak of hostilities in Korea there had been serious price declines in a number of primary commodities. Actual surpluses especially in food and agricultural commodities were becoming apparent. During this time governments were doing preparatory work for the Torquay conference and deciding policy with respect to the forthcoming tariff negotiations. The spirit of this period carried into the Torquay negotiations where it was quite evident that there was a strong element of protectionism present especially when food and agricultural items were under discussion.

In a number of countries there had been some relaxation of quantitative import restrictions and such countries were again relying on tariffs to protect their producers against outside competition. This made the tariff significant and harder to reduce. In other cases it seemed that political considerations outweighed economic. All of these factors had a tightening effect on the tariff negotiations.

In view of the background and timing of the meeting it is almost surprising that it achieved what it did in the main objective of the conference which was to negotiate tariffs to lower levels.

At Torquay in 1950-51 the technique of tariff negotiations was similar to that established at Geneva in 1947 and carried on at Annecy in 1949. Pairs of countries met simultaneously from day to day until a mutually satisfactory two-sided agreement was reached. When negotiations concluded on April 21, 1951, a total of 147 bilateral or two-sided tariff agreements had been negotiated, an average of one agreement per working day of the conference. Altogether the agreement contained 8,700 tariff concessions.

---

[1] Representative on Canadian Delegations at tariffs and trade conferences in Geneva, Annecy, Havana and Torquay.

In accordance with the most-favoured-nation principle of the General Agreement these concessions are extended to all members. For example, Germany granted Italy a concession in the import duty on apples and the United States in bilateral negotiations with the Netherlands reduced the duty on carrot seed. These concessions which accrue to Canada as a party to the General Agreement are called indirect concessions. This multilateral aspect in tariff negotiations for which Geneva set the pattern in 1947 has widened the scope and speeded up tariff negotiations and trade liberalization.

At Geneva in 1947 where 23 countries entered into tariff negotiations concessions were made on 45,000 tariff classifications. At Annecy in 1949 the 23 Geneva countries negotiated with 10 new countries but did not negotiate among themselves. The Annecy concessions affected approximately 5,000 tariff classifications. At Torquay negotiations were opened to all members plus the six acceding countries. The United Kingdom, Australia, the Union of South Africa and New Zealand were unable to find common ground for agreements with the United States and as a result the scope of the negotiations was disappointingly narrowed.

Added together, the Geneva, Annecy and Torquay concessions cover approximately 58,700 tariff classifications entering into the trade of 38 countries which accounts for 80 per cent of world imports and exports. The full benefits of the tariff reductions are not being secured at the present time in many foreign markets due to restrictive measures which some countries apply. These measures take the form of quantitative restrictions on imports or controls on the dollars which foreign governments release for the purchase of commodities from dollar countries.

How much longer this situation is going to continue is uncertain. During the second half of 1950 and the first six months of 1951 there was definite improvement in the gold and dollar reserves of many European countries and some encouraging steps were taken in the direction of trade liberalization. In its second Annual Report published April 1951 the International Monetary Fund, discussing restrictions under present conditions, reports:

> In conclusion, despite the existing uncertainties and difficulties, the Fund believes that many countries are in a position to undertake substantial removal of discrimination and relaxation of non-discriminatory restrictions and to make significant progress toward convertibility. Such measures can make a substantial contribution to offsetting some of the inevitable consequences of rearmament programs. They could help strengthen the economies of the countries concerned and provide a sounder basis for the achievement of longer-run stability in external economic relations.

At Torquay, on the export side, the Canadian delegation was interested in obtaining tariff and trade concessions in foreign countries which would expand and diversify market outlets for Canadian farm products. The objective was to open up new opportunities for trade. A summary is appended to this article which shows the coverage in the Torquay tariff concessions with respect to countries and commodities which should help to diversify market outlets for Canadian agricultural products.

The scope of the tariff negotiations with the United States was limited by the powers for tariff negotiating granted by the Reciprocal Trade Agreements Act. The Act in force at the time of the Torquay negotiations permitted the President by executive authority and without reference to Congress to reduce tariffs by 50 per cent from the rates existing on January 1, 1945.

At Geneva in 1947 the United States granted concessions on 217 tariff classifications of interest to Canadian agriculture. On 93 items or nearly one-half the duty was reduced the full 50 per cent. Some reduction was obtained on 71 items and a binding against increase was negotiated on 53 items.

At Torquay the United States reduced its customs duty on 54 items in which Canadian agriculture has an export interest. On 44 items out of the 54 the maximum reduction was obtained and on 10 items there was a partial reduction.

These concessions will be helpful in improving the Canadian exporters' competitive position in the American market but there were some disappointments at Torquay. The United States was unwilling to negotiate a further concession on table and certified seed potatoes although Canada retained the concessions that had been granted for potatoes at Geneva. The United States was also unwilling to enter into negotiations on a number of other important items. These included shell eggs, dried beans, onions, dried buttermilk, pork products, silver and black fox furs and linseed oil. No offers were made by the United States on barley malt, linseed oilcake and meal, maple sugar and maple syrup. At Geneva reductions in the duty had been obtained on practically all of these products and as a result of the Torquay declaration Canada holds for another three years all that was gained in 1947 by way of tariff concessions.

Exports of farm products to the United States on which Canada received tariff concessions at Torquay were valued at $18,600,000 in 1950. From the standpoint of value the more important items included mixed feeds with an export value of $5,500,000, sheep and lambs $1,680,000,, cheddar cheese $965,000, fresh grapes $1,078,000, frozen blueberries $951,601, Christmas trees $3,090,000 and peat moss $2,717,000.

Based on the 1950 volume of exports the concessions by the United States on farm products have a tariff value of $549,000 to Canadian producers and exporters. In other words the income of Canadian producers and exporters is increased by almost the full $549,000, by which amount the revenue of the United States Treasury is reduced. The volume of most Canadian farm products exported to the United States is small in relation to the United States production and has practically no influence on the market price in that country. That being the case the full value of reductions in the United States tariff is reflected in higher returns to Canadian exporters and producers. For example, the duty on cheddar cheese imported into the United States was reduced from 3½ cents per pound but not less than 17½ per cent ad valorem to 3 cents per pound but not less than 15 per cent ad valorem. The effective duty in 1950 was the ad valorem rate of 17½ per cent. At Torquay the duty was therefore reduced by 2½ per cent. In 1950 the United States imported from Canada 2,779,541 pounds of cheese with an export value of $965,241. On this volume of trade the tariff value of the concession of 2½ per cent is approximately $24,000. Based on the 1950 volume of exports to the United States the tariff values of other concessions were: sheep and lambs $184,000, mixed feeds, $137,500, fresh grapes $36,000, frozen blueberries $11,900 and rapeseed oil $40,000.

Statistical measurements of past performance may be interesting but the real value of a tariff concession depends on the new opportunities in trade expansion which it yields. Tariff reductions have improved the competitive position of Canadian farm products in the American market and if as a result the volume of exports increases direct benefits should accrue to Canadian producers.

On the import side the Canadian delegation's interest was to safeguard our agricultural producers but at the same time to have regard for the consumers and the national interest. In response to requests from supplying countries Canada reduced customs duties on approximately 40 food and agricultural items. In addition, Canada made substantial reductions in the duty on equipment and supplies which enter into the farmers' costs of production. Insecticides and fungicides in bulk which before Torquay were subject to a duty of 7½ per cent ad valorem were put on the free list. A binding of free entry was granted on crushed limestone. The duty on baling wire was reduced from 15 per cent to free. A wide list of farm and barn equipment was reduced from rates varying between 20 and 25 per cent to free. The duty on grain and seed cleaners was reduced from 25 per cent to 15 per cent and electric motors attached to farm implements which were subject to a duty of 22½ per cent will now enter Canada free of duty. With these additional reductions in the Canadian tariff practically all farm machinery and farm equipment, and supplies such as fertilizers now enter Canada free of duty or at very nominal rates.

Imports of farm products from the United States on which Canada granted tariff concessions at Torquay were valued at $10,000,000 in 1950. Based on this volume of imports the Canadian concessions have a tariff value of $504,000. If non-competitive products which include bananas, walnuts, cigar leaf tobacco and grapefruit juice are excluded the import value is reduced to $6,648,000 and the tariff value of concessions to $394,000. This figure includes the tariff value of the concession of two cents per pound on 10,293,916 pounds of salt beef. It amounted to $205,900 out of the total of $394,000.

At Torquay the German Federal Republic acceded to the General Agreement on Tariffs and Trade. Tariff concessions obtained from Germany of interest to Canadian agriculture include wheat and wheat flour, forage crop seeds, apples, and canned meats. Through negotiations freer access to the French market was obtained for wheat and rye, dried beans and maple products. Italy granted a number of useful concessions and opportunities for increased trade in farm products were opened up with Peru and the Philippine Republic.

Details of tariff concessions granted at Torquay by Canada which affect Canadian agriculture are shown below in Schedule I and details of tariff concessions on agricultural products obtained from negotiating countries are included in Schedule II. The tariff concessions agreed to at the Torquay conference between Canada and the United States came into effect on June 6, 1951. It is expected that all the tariff concessions will be in force not later than November 20, 1951. The exact date on which Canada will extend concessions negotiated with other countries depends on when the other countries take similar action.

Tariff Concessions at Torquay 1950-51
Schedule I.—Changes in the Canadian MFN Tariff Affecting Agriculture

Item Number	Description	Unit	Pre-Torquay rate	Torquay agreement rate
8a	Canned pork		30%	25%
8f	Canned poultry and game		20%	15%
9	Poultry and game, n.o.p		15%	12½%
10	Meats prepared or preserved, other than canned:—			
	Ex. (*a*) Salt pork in barrels	lb.	1¾¢	Free
	Ex. (*b*) Salt beef in barrels	lb.	2¢	Free
Ex. 17	Cheddar cheese	lb.	3½¢	3¢
34	Mustard ground		20%	17½%
43	(1) Condensed milk	lb.	3¾¢	3¢
	(2) Evaporated milk	lb.	3¾¢	3¢
43a	(1) Dried whey, dried skim milk, and dried buttermilk for animal and poultry feeds	lb.	5¢	3½¢
	(2) Powdered milk, whole and skim, n.o.p	lb.	5¢	4¢
45	Milk foods, n.o.p		20%	17½%
69a	Cattle food containing molasses		15%	10%
Ex. 71b	White clover seed (ladino)	lb.	2¢	2¢
72e	Bent grass seed, not to include red-top grass seed		22½%	15%

Schedule I—*Concluded*

Item Number	Description	Unit	Pre-Torquay rate	Torquay agreement rate
Ex. 73	Field seeds in packages over 1 lb.:—			
	Orchard grass		7½%	5%
	Blue grass		7½%	5%
	Rye grass		7½%	5%
	Meadow fescue		7½%	5%
	Red fescue		7½%	5%
85	(*b*) Mushrooms, dried or otherwise preserved		15%	12½%
89	(*a*) Beans, baked or otherwise prepared	lb.	1½¢	1¢
Ex. 90a Ex. 711	Soya bean flour, n.o.p		20%	17½%
90b	Vegetables, pickled, etc., n.o.p		22½%	20%
90d	Vegetable pastes and hash with meat		25%	20%
90e	Vegetables, frozen		20%	17½%
91	Soups, soup rolls, tablets, etc		25%	20%
93	Apples, fresh	lb.	¾¢ (July 13 to May 19) Free (May 20 to July 12)	⅜¢ (Aug. 1 to May 19) Free (May 20 to July 31)
98	Bananas	100 lbs.	50¢/bunch	50¢
105f	Jellies, jams, marmalades, etc	lb.	3¼¢	3¢
105g	(2) Maraschino cherries		27½%	25%
Ex. 109	Walnuts, shelled or not	lb.	1¢	Free
142	(*a*) (i) Turkish tobacco, unstemmed	lb.	30¢	22¢
	(ii) Turkish tobacco, stemmed	lb.	40¢	40¢
142	(*b*) (i) Unstemmed tobacco for cigars	lb.	20¢	15¢
	(ii) Stemmed tobacco for cigars	lb.	30¢	22½¢
144	Cut tobacco	lb.	80¢	65¢
152	(*f*) Grapefruit juice		15%	10%
153a	Grape juice	gal.	25¢	20¢
168a	Malt syrup		25%	22½%
Ex. 213	Vinegar	gal.	12½¢	10¢
219f	Riboflavin		Free	Free
219a	Insecticides and fungicides, over 3 lb. packages		7½%	Free
219g	Yeast		Free	Free
232c	Gelatine, edible		25%	22½%
296f	Limestone, crushed or screened		Free	Free
Ex. 711				
401	(*a*) Barbed wire		10%	10%
401	(*f*) Coated wire		30%	25%
401	Ex. (*g*) Baling wire		15%	Free
Ex. 402a	Woven or welded wire fencing		25%	20%
407a	Chains of iron or steel		25%	22½%
409f	Farm equipment (budget resolution) grain crushers, grain or hay grinders; grain or hay dryers; milk coolers, steel stanchions; stock watering bowls; litter carriers; sprinkler irrigation systems; barn hay forks		20 to 25%	Free
415a	Refrigerators, electric and other		20%	17½%
425	Lawn mowers		25%	22½%
Ex. 427	Grain and seed cleaners and complete parts, up to 100 bu. per hr. capacity		25%	15%
431b	Farm tools including sledges, hammers, crowbars, picks and mattocks		25%	22½%
Ex. 445g	Electric motors incorporated in or attached to or to be incorporated in or attached to agricultural implements		22½%	Free
Ex. 547	Bags or sacks of jute		17½%	15%
618b	Rubber tires		25%	22½%
619	Rubber hose		22½%	20%
Ex. 711	Lime		20%	15%
427	All machinery of iron or steel, n.o.p		25%	20%
427a	All machinery, n.o.p. not made in Canada		10%	7½%
Ex. 431b Ex. 446a	Web saws and parts		22½%	20%
431f	Files and rasps		25%	22½%
663	Fertilizers compounded or manufactured, n.o.p		5%	5%

Schedule II.—Direct and Indirect Tariff Concessions Obtained from Negotiating Countries On Agricultural Products

Country	Product	Unit	Pre-Torquay rate	Torquay agreement rate
	Wheat and wheat flour			
Benelux	Increase in free entry quota for wheat flour, imported into the Netherlands, from 50,000 metric tons to 65,000 metric tons (3⅓ m. bu.)—imports in excess of quota bear rate of 3%.			
France	Modification of the note in the wheat tariff agreement which provides for the automatic downward adjustment at the rate of 20% per year of the domestic wheat selling price in the event of a drastic decline in world wheat prices.			
Germany	Wheat—Agreed that the maximum protection afforded to wheat producers in Germany would not exceed a customs duty of 20%. Wheat flour—Agreed that the duty on wheat flour would not exceed the duty in effect on wheat plus 13%. At present the wheat duty is suspended so the effective duty on wheat flour is 13%. This is a reduction of 2% from the draft tariff rate of 15%.			
Korea	Wheat flour		10%	5%
Philippines	Wheat flour	100 kg.	47¢	40¢
	Rye			
France	Rye, grain		50%	30%
U.S.A.	Rye flour and meal	cwt.	30¢	22½¢
	Rye malt	cwt.	30¢	22½¢
	Coarse grains and products			
Austria	Dried beans	100 kg.	4·8 g.c's	3 g.c's
	Dried peas	100 kg.	10 g.c's	8 g.c's
Benelux	Dried beans		Free	Free
Brazil	Oats, crushed	m.t.	742 crs.	530 crs.
Denmark	Barley		Free	Free
	Oats		Free	Free
France	Haricot seeds and grain		20%	15%
	Dried beans		12%	6%
Germany	Dried peas		10%	10%
Greece	Haricots	100 kg.	6 m.d's	6 m.d's
	Dried beans	100 kg.	5 m.d's	4 m.d's
India	Oatmeal		30%	25%
Italy	Split peas		15%	10%
	Dried whole peas		5%	5%
	Barley		35%	30%
	Barley for malting		35%	10% in quota of 170,000 quintals
	Oats		30%	25%
	Rolled oats		25%	20%
	Bran, shorts, etc		20%	15%
Peru[1]	Rolled oats, in packages	kg.	0·06 sol	0·04 sol
Philippines	Dried peas	100 kg.	$1.20	0·65
	Barley malt		Free	Free
U.S.A.	Oats, unhulled, ground	cwt.	25¢	12½¢
	Oatmeal, rolled oats	cwt.	10% min. 40¢ max. 80¢	10% min. 20¢ max. 80¢
	Mixed feeds		5%	2½%
	Dog food, canned, containing grain products		5%	2½%
	Cereal breakfast food		10%	5%
	Wafers, puddings, cakes		10%	7½%
	Liquid malt, malt syrup	gal.	$1.00	50¢
	Malt extract		60%	30%
Union of S. Africa	Malted barley	cwt.	4s.	2s.
	Certified seed corn			
Austria	Seed corn		Free	Free
France	Seed corn		30%	15%
Germany	Seed corn		Free	Free
India	Seed corn		Free	Free
U.S.A.	Seed corn	bu.	25¢	12½¢

Schedule II—*Continued*

Country	Product	Unit	Pre-Torquay rate	Torquay agreement rate
	Certified seed grain			
Austria	Seed wheat	100 kg.	16 g.c's	Free
	Seed rye	100 kg.	10 g.c's	Free
	Seed barley	100 kg.	10 g.c's	Free
	Seed oats	100 kg.	6 g.c's	Free
	Oil seeds and products			
Germany	Mustard seed		Free	Free
	Linseed oil cake		10%	Free
Norway	Oilcake and oilcake meal		Free	Free
U.S.A.	Sunflower seed	lb.	2¢	1¢
	Mustard seed	lb.	1¼¢	⅞¢
	Rapeseed oil	gal.	6¢	5¾¢
		lb.	+4½¢	+2¼¢
	Rapeseed oil (denatured)		Free	Free
		lb.	+4½¢	+2¼¢
	Other expressed or extracted oils		20%	10%
	Live stock and meats			
Austria	Cattle for breeding		Free	Free
	Raw hides and skins		Free	Free
Benelux	Bovine cattle for breeding purposes		9%	Free
	Meat soups		30%	25%
France	Canned pork		50%	35%
Guadeloupe and Martinique	Meats, fresh or frozen		Free	Free
Germany	Horses for breeding		Free	Free
	Cattle for breeding		Free	Free
	Horse meat, fresh, chilled or frozen		25%	20%
	Canned beef and veal		25%	22%
	Canned pork, bacon and hams		25%	22%
	Bacon		30%	26%
	Canned sausage		25%	22%
	Sausage casings		5%	Free
	Meat extracts		5%	3%
	Inedible tallow		12%	Free
Italy	Purebred cattle without pedigree for dairying and breeding		35%	Free
Korea	Tinned hams and other canned meat		40%	30%
Peru[1]	Calf skins		Free	Free
Philippines	Live cattle	hd.	$7.00	$6.00
	Canned hams		15%	10%
	Registered breeding cattle and horses		Free	Free
Turkey	Meat preserved or tinned	100 kg.	385 lira	150 lira
U.S.A.	Sheep and lambs	hd.	$3.00	75¢
	Beef and mutton tallow inedible and edible	lb.	¼¢	⅛¢
		lb.	+1½¢	+¾¢
	Meats fresh chilled or frozen nspf	lb.	6¢	3¢
			20% min.	10% min.
	Horses—not for breeding or immedaite slaughter.			
	Valued not over $150	hd.	$10.00	$7.50
	— valued over $150		15%	8¾%
	Animal oils, nspf, inedible fats		10%	10%
	and greases	lb.	+2.7¢	+1½¢
	Animal oils and fats, nes, edible		20%	10%
	Horses for immediate slaughter		Free	Free
	Articles manufactured in whole or in part which includes—horse meat, rendered inedible by addition of denaturant such as bone meal		20%	10%
Union of S. Africa	Sausage casings		10%	5%
	Dairy Products			
Germany	Cheese, cheddar		30%	25%
	Powdered milk		25%	20%
India	Milk foods for infants, canned or bottled		30%	25%
Italy	Evaporated milk		25%	18%
Korea	Canned milk		25%	10%
Peru[1]	Whole powdered milk	kg.	0.01 sol	Free
	Skim powdered milk	kg.	0.02 sol	Free
	Whole powdered milk in bulk for industrial use	kg.	0.10 sol	0.10 sol

Schedule II—*Continued*

Country	Product	Unit	Pre-Torquay rate	Torquay agreement rate
Philippines	Malted milk, infants foods and similar preparations		15%	10%
	Milk and cream condensed		10%	5%
	Milk powder		20%	10%
	Cheese		15%	10%
U.S.A	Cheese, cheddar	lb.	3½¢ 17½% min.	3¢ 15% min.
	Cream, within quota of 1.5 m. gals	gal.	20¢	15¢
	Malted milk and compounds		35%	17½%
	Casein glue		30%	15%
	Poultry and poultry products			
Austria	Dried eggs	100 kg.	40 g.c's	30 g.c's
Germany	Canned chicken soup		30%	25%
	Fruits and fruit products			
Dominican Republic	Fruits canned	KN	0.12 peso	0.10 peso
Germany	Apples, fresh: 16 Aug. to 30 Nov		20—25%	25% min. 6 DM/100 kg.
	1 Dec. to 15 Mar		25%	20% min. 6 DM/100 kg.
	16 Mar. to 15 Aug		20—25%	10% min. 3 DM/100 kg.
	Dried apples		10%	10%
	Fruit salad		35%	35%
India	Apples, fresh		30%	24%
Norway	Apples, fresh: 1 Aug. to 15 Feb	kg.	.80 kr.	.50 kr.
	16 Feb. to 15 Mar	kg.	.40 kr.	.40 kr.
	16 Mar. to 31 July	kg.	.20 kr.	.20 kr.
	Pears, fresh: 1 Aug. to 15 Jan	kg.	.80 kr.	.60 kr.
	16 Jan. to 31 July	kg.	.20 kr.	.20 kr.
	Dried apples	kg.	.60 kr.	.50 kr.
Peru[1]	Apples, fresh	kg.	.02 sol	Free
	Preserved peaches and pears	kg.	.70 sol	0.15 sol
U.S.A	Blueberries, frozen		10%	8¾%
	canned		10%	8¾%
	Grapes, fresh: July 1 to Feb. 14	cu. ft.	17½¢	12½¢
	Cantaloupes: Aug. 1 to Sept. 15		25%	20%
	Grape juice	gal.	70¢	45¢
	Pectin		25%	12½%
	Vegetables and vegetable products			
Benelux	Tomato and pea soups		30%	25%
Denmark	Tomato puree	kg.	.40 kr.	.20 kr.
	Tomato juice	kg.	.40 kr.	.25 kr.
	Sauces	kg.	.20 kr.	.15 or 10%
France	Tomato juice		18%	15%
Germany	Tomato juice		15%	10%
	Canned peas		35%	35%
Italy	Canned baked beans		25%	18%
Peru[1]	Canned tomatoes	kg.	.40 sol	.40 sol
	Canned asparagus	kg.	1.00 sol	.50 sol
	Powders or pastes for preparing soups	kg.	1.50 sol	.80 sol
	Liquid vegetable soups	kg.	.80 sol	.40 sol
U.S.A	Beets, fresh, other than sugar		10%	5%
	Cauliflower, Aug. 6 to Oct. 15 (Half duty rate now extends from June 5 to Oct. 15).		25%	12½%
	Radishes, season extended to full year		25%	12½%
	Cucumbers, pickled		25%	17½%
	Horseradish	lb.	3¢	1½¢
	Onion sets	lb.	2½¢	1¼¢

---

[1] Peru—All dutiable and free goods on this list when imported into Peru are subject to a surtax of 10½% or 12½%. This is a binding of the present surtax.

Schedule II—*Concluded*

Country	Product	Unit	Pre-Torquay rate	Torquay agreement rate
	Certified seed potatoes			
Austria	Seed potatoes	100 kg.	3 g.c's	Free
Benelux	Seed potatoes		10%	5%
Peru[1]	Seed potatoes		Free	Free
	Seeds and Nursery stock			
	Forage crop seeds:			
Austria	Clover seed	100 kg.	20 g.c's	10 g.c's
	Grass seeds	100 kg.	10 g.c's	5 g.c's
	Seeds, nsm	100 kg.	10 g.c's	5 g.c's
Germany	Perennial rye grass seed		15%	10%
	Meadow fescue seed		15%	10%
	Blue grass seed		15%	10%
	Red clover seed		10%	2%
	Alsike clover seed		15%	2%
	Alfalfa seed		10%	5%
Korea	Clover and grass seeds		15%	10%
Norway	Alfalfa seed		Free	Free
	Sunflower seed		Free	Free
U.S.A.	Spring vetch	lb.	1½¢	1¢
	Vegetable and flower seeds:			
U.S.A.	Cauliflower seed	lb.	25¢	12½¢
	Carrot seed	lb.	3¢	1½¢
	Parsnip seed	lb.	3¢	2¢
	Garden and field seeds, nspf	lb.	2¢	1½¢
	Flower seeds	lb.	3¢	1½¢
	Nursery stock:			
U.S.A.	Tulip bulbs	M.	$3.00	$2.00
	Lily bulbs	M.	$6.00	$4.50
	Other bulbs		10%	7½%
	Special products			
France	Maple syrup and sugar		30%	20%
Germany	Honey for industrial uses		Free	Free
U.S.A.	Flax straw	ton	$1.50	75¢
	Flax tow	lb.	½¢	¼¢
	Evergreen Christmas trees		Free	Free
	Peat moss	ton	50¢	25¢
	Furs and fur skins:			
Germany	Raw mink skins		Free	Free
	Raw muskrat skins		Free	Free
Sweden	Fur skins—muskrat, opossum, raccoon, skunk	100 kg.	400 kr.	400 kr. or 10%
Union of S. Africa	Raw fur skins		5%	Free

TRENDS IN RURAL POPULATION IN CANADA WITH PARTICULAR REFERENCE TO THE MARITIME PROVINCES[1]

J. COKE

The problem of rural depopulation is common to all provinces in Canada and to all industrialized countries. Examining the trends in population in the so-called highly developed nations of the world, one finds that over the years there has been a movement of population away from farms and into urban industry, business and professions. For example, in the United States in 1929, farm population represented nearly 25 per cent of the total; by 1941, it was just under 23 per cent and in 1949 it was a little less than 19 per cent. In 1945 in New Zealand, 37 per cent of the population was classified as rural compared with 54 per cent in 1901. In the United Kingdom in 1931, a little over 20 per cent of the population was classified as rural as against 21 per cent in 1911. In 1949, 54 per cent of the total population in Sweden was rural whereas in 1900, about 78 per cent was rural. In Denmark, in 1950, barely

---

[1] This paper is based on a talk given at the Board of Home Missions, United Church of Canada, Sackville, New Brunswick, on March 8, 1951.

50 per cent of the population was classified as rural and in 1901 nearly 62 per cent was rural. Many people look upon this as a very undesirable thing and some people are certain that it is indicative of a decadent agriculture. As a matter of fact, it may not be an indication of decadence at all. It may be the result of increasing efficiency arising, in part, from the substitution of machinery for the use of human labour. It may reflect man's effort to overcome the difficulties with which he had to contend in earlier days when he had to devote most of his efforts to providing himself and his family with meagre rations. Farmers who are directly affected by the movement of population to urban centres, who come into competition with urban manufacturers for labour, may find it difficult to look upon this drift of population from farms to towns and cities in a philosophical manner. But the problem must be looked at objectively. In a dynamic society, conditions are constantly changing and people's opinions must keep pace with these changing conditions. That is not always easy; it makes for problems which are difficult to solve. Solutions are not always readily found and, as a result, maladjustments in population between rural and urban areas may occur. The conditions on farms and in urban centres at the present time are very different from what they were at the beginning of this century. This must be borne in mind in appraising without bias this problem of the farm-to-city movement.

Population Changes.—Back in 1871 there were around 3,690,000 people in Canada and in 1901, 5,371,000; then by 1921 Canada's population had reached 8,788,000 and in 1941 it was 11,507,000. The three older Maritime Provinces had 767,400 people in 1871. By 1901, the population had grown to 894,000; by 1921, to just over 1,000,000; and in 1941 it was 1,130,000. The most recent estimate by the Dominion Bureau of Statistics indicates that as of December, 1950, there were nearly 14,000,000 people in this country. Of course there are now ten provinces (Table 1).

Rural-Urban Distribution.—Back in 1871, in the country as a whole, 80 per cent of Canada's population lived in rural areas and 20 per cent in urban centres. By 1901, the proportion was 62·5 per cent in rural areas and 37·5 per cent in urban areas. By 1921 the division was almost even, 50·5 per cent rural, 49·5 per cent urban, and in 1941 it was 46 per cent rural and 54 per cent urban. The balance had shifted from a rural to an urban population.

Another significant figure, which, however, is available for only two census years, is the population on farms. In 1931 the census reported 3,289,140 people living outside incorporated cities, towns and villages. Of this number, 3,223,400 lived on farms. In 1941, the comparable figures were 3,152,400 and 3,116,900. This change indicates a smaller farm population in 1941. In the Maritimes in 1941, Prince Edward Island had a farm population of 51,000, Nova Scotia had 144,000 and New Brunswick 164,000.

Of course, the census figures on farms and farm population leave something to be desired. Anyone living on a piece of land one acre or more in size and who produced, in 1940, agricultural products to the value of $50 or more, was classified as a farmer. This leads to an examination of the classification of farms by types. In Nova Scotia there were, in 1940, 17,500 farms classified as subsistence and combinations of subsistence farms[1]—that is, out of a total of 33,000, a little more than half —and 4,000 were part-time farms. In New Brunswick, out of 32,000 farms, 17,000 were classified as subsistence or a combination of subsistence and 4,300 as part-time farms, whereas in Prince Edward Island out of 12,230 farms, 5,700 were subsistence or combinations of subsistence farms and 744 were part-time farms. Those who come from farms know that subsistence and part-time farms contribute little to agricultural output although they may have other advantages.

What is the distribution of the population by rural districts and urban areas in the Maritime Provinces? In 1871, 88 per cent of the people lived in rural areas and 12 per cent were in urban centres. In 1901, 75 per cent were still located in rural parts and 25 per cent were in urban centres. Then in 1921 the figure was 63 per cent for the rural districts and 37 per cent for urban centres. The last census reported

---

[1] Farms on which the value of products consumed or used by the farm household amounted to 50 per cent or more of the gross farm revenue were classed as "Subsistence Farms". "Combinations of Subsistence Farms" are farms where the value of products used or consumed and the revenue from another main type, such as poultry, livestock, etc., were required to form 50 per cent or more of the gross farm revenues. Census of Canada, 1941. Vol. VIII, p. xxvi.

Table 1.—Estimated Population, Canada and Provinces, December 1950

	Number
	thousand
Canada	**13,845**
Newfoundland	355
Prince Edward Island	96
Nova Scotia	658
New Brunswick	522
Quebec	3,976
Ontario	4,512
Manitoba	795
Saskatchewan	874
Alberta	895
British Columbia	1,138
Yukon	8
Northwest Territories	16

61 per cent in rural areas and 39 per cent in urban centres. The balance of population between the rural areas and the urban centres, as of 1941, was still considerably in favour of the rural districts.

What causes some people to choose agriculture as an occupation and others to choose to go elsewhere? Some information is available on that topic. This information was obtained in a study which was made in Dundas County in Eastern Ontario in 1949. The study was concerned with the changes that had taken place in a dairy farming region over a period of thirty years and among the matters dealt with were the changes in population which had occurred during the period. Of the male descendants of the farmers on the original farms, which were visited in 1917 and 1918, who were still on the farm, 24, or 35 per cent, said that they stayed there because they liked to farm. Fourteen, or a little over 20 per cent, said that they had stayed on the farm because their parents were old or in poor health and could not have continued to farm unless some one had stayed on the farm. Quite closely related to this is the situation which occurred on 11 farms, 16 per cent of the farms reporting. In these cases the farmers who were interviewed said that they had stayed there because they were the only sons in the family and had to take over the farm. Ten farmers, nearly 15 per cent, said that they had stayed on the farm because their older brothers had left and someone had to stay on the farm and operate it along with their parents. Five farmers inherited farms, two said their health was not suited to any other occupation and two said that they didn't have any better alternative.

The striking thing about this analysis was that 35 per cent of the farmers reporting said that they had chosen to stay on the farm because they liked it. About 20 per cent said they had stayed out of a sense of filial responsibility, in fact it may be said that thirty-seven per cent stayed because of a sense of filial responsibility, and to that may be added the others, amounting to 14 per cent, who stayed because their older brothers had got out and there was no one left to help the old folks. Only a few of the women who were descendants of the original operators remained on the original farm. They stayed there because they liked the farm and farm life, or because of a sense of duty to their parents.

The reasons given by the male descendants for leaving the original farms were as follows: 34·2 per cent said they left because the farm was not large enough to support all adult members of the family; 26 per cent said outright that they did not like farming; 16 per cent left to begin farming elsewhere; nearly seven per cent said their health was not suited to farming; about seven per cent left to continue their education; over five per cent left because the farm was transferred to some other member of the family; less than three per cent said they had left because the initial capital investment required to take over the farm was too high; and one farmer said that he left the farm because his wife didn't like it.

The movement of population from farms to cities is not entirely a bad thing. Some movement of population from farms is inevitable. Seventy-five years ago Canadians did not have many of the things available today. Fifty years ago they didn't have the good roads; they didn't even have the good churches and schools. They didn't have the manufacturing industries or the stores. They didn't have the transportation systems or the communications, including radio. Somebody had to leave a job in order to provide these services or facilities which the people wanted. Most of the people who have gone into these secondary industries and into the professions have come from agriculture, forestry, or fishing. Although people have left the farm, expansion of output has continued. This was possible because of scientific advancement and technological progress. Back in the beginning of the century, a 50 or 60 million bushel wheat crop was a big crop but now a 300 million bushel wheat crop would be considered just an ordinary one and Canada has produced more than 500 million bushels. Twenty years ago, in the Annapolis Valley, they were proud of a crop of a million barrels of apples while in some years recently production has been as high as two million barrels. In fact, they have had too many apples, or more than they could sell at what they thought were remunerative prices. This question of markets is one that should not be overlooked in discussing the problem of population. The Maritimes over the last 11 years have produced from 28 to 42 per cent of the Canadian potato crop.

Farms in Canada have been getting larger; the average size of farm for Canada, as a whole, in 1881 was 98 acres. In 1901 it had increased to 124 acres. By 1921 the average was 198 acres and in 1941 it was 237. In the Maritime Provinces, the average area per farm in 1881 was 97 acres, just about the same size as the average for the country as a whole. In 1901 it had risen to 102 acres. By 1921 the average had become 104, and in 1941 it was 116 acres. The area of improved land per farm in the Maritimes was about 35 acres in 1881. It was 32 acres in 1901. It was still 32 acres in 1921 and in 1941 it was 36 acres. Thus the average area of improved land per farm has not increased very much. It did rise between 1881 and 1891 (when it was a little over 37 acres); it dropped a bit in 1901, and between 1921 and 1941 there was an increase of only four acres in the average area of improved land per farm in the Maritime provinces. The figures for Canada, as a whole, indicate that there has been a regular rise in the average area of improved land per farm. It was 47 acres in 1881, 59 acres in 1901, 100 acres in 1921, and 125 in 1941. This trend indicates that the area of land which can be brought under cultivation in the Maritime provinces is rather limited and the possibility of increasing the area of farms to accommodate equipment such as is now available and to utilize that equipment efficiently is somewhat restricted.

In Canada in 1901, 40 per cent of the total number of gainfully employed persons, 14 years old or older, were in agriculture. In 1941, the percentage was 26 and in November 1950 it was 19. Taking the Maritimes alone, in 1901, 41 per cent were engaged in agriculture; by 1941 the number had fallen to 26 per cent and by November 1950 it was down to 16 per cent. This might be put another way: in terms of the total employed in agriculture in Canada, the Maritimes had 17 per cent in 1901 and nine per cent in 1941. The proportion had fallen to seven per cent in 1950. The figures on urban employment are approximately the same.

Not only is the Maritime region one of declining rural population but it is one of a relatively declining urban population. Of the total population of Canada, the older Maritime Provinces had 20 per cent in 1881, 17 per cent in 1901, less than 12 per cent in 1921, and hardly 10 per cent in 1941.

Birth rates in rural areas are generally higher than in industrial centres. The composition of the population of the Maritimes reflects a relatively large group under 19 years of age and a relatively large group over 65. The exodus from the Maritimes is indicated in the percentages of the population in the age group from 20 to 59. As of 1941 there was clear evidence that although population generally is ageing, that of the Maritimes has higher percentages in the age groups 64 years of age and over.

Agricultural Production.—Total volume of agricultural production has not fallen along with the decrease in rural population. The Dominion Bureau of Statistics has constructed an index of the physical volume of agricultural production. It is based on the average production in the five years 1935-39. In Canada in 1950, this index was 139·8. For the Maritime Provinces it was: 148·5 for Prince Edward Island, 105·5 for Nova Scotia and 136·9 for New Brunswick.

The census figures hardly indicate the investment per farm; there are so many farms that are not commercial undertakings. In 1941 it was estimated the average would be about $4,000 in the Maritimes and $7,000 for all Canada. The value of farm land and buildings in the Maritimes was placed at five per cent of the total for Canada, machinery at a little over 4½ per cent and livestock at 5½ per cent. In 1950 the average investment per farm is estimated at about $5,000 in the Maritimes and $11,000 for all Canada. The value of farm lands and buildings in the Maritimes in 1950 amounted to five per cent of the corresponding figure for Canada as a whole, machinery to nearly four per cent and livestock to five per cent.

In 1946 the Economics Division did a study of dairy farms in Nova Scotia. In the Truro area, average values per farm were: buildings $2,337, land $1,488, stock $1,829, machinery $1,248 or a total of $11,801 per farm. In the Scotsburn area, the average value of buildings was $2,175, land $1,659, stock $1,765, machinery $1,122, a total of $6,731. All of these figures would be higher today, particularly stock and machinery.

Of course, there have been very large expenditures for farm implements. In 1938 sales of farm equipment in the Maritimes amounted to $934,000. In 1949, they were $5,333,000, which was two per cent less than they were in 1948. This does not include repair parts. Sales of fertilizer in the Maritimes were 92,890 tons in 1939 and in 1950 were 151,482 tons. These two items are quoted as indicative of the expansion in capital investment in agriculture.

The machine does not always replace a man. It may become necessary to take the place of a man or a woman who has left the farm. Sales of milking machines have been very large in recent years; so the dairymen are able to take care of more cows with the same help or the same number with less labour. The same analysis may be applied to the use of tractors. Even twenty years ago, tractors were uncommon on farms. For example, in 1937, 147 tractors were sold in the Maritime Provinces. From 1948 to 1950 sales were over 2,000 in each year, 2,245 being sold in 1950 alone. In 1937, one combine was sold in the Maritime Provinces; in 1950, 94 were sold. One very significant comment may be made. In 1950 almost as many tractors were sold in Eastern Canada as in the West (26,063 and 29,362 respectively). Of course the frost in the West probably had something to do with the reduction of five per cent which took place there. The foregoing indicates the extent to which machines are being utilized for farm work. Some people get worried about over-capitalization of farms and that can happen but these developments in mechanization mean that farm people may not suffer so much from round shoulders. That in itself is a justifiable goal.

Rural electrification has been expanding in recent years. The figures are not up to date but in 1947, in Prince Edward Island, 2,857 rural services were receiving power from central electrical stations. In Nova Scotia, there were 12,787 and in New Brunswick 24,668. In Ontario an unofficial estimate would be over 100,000.

There has been considerable farm abandonment in the Maritime Provinces—perhaps more in Nova Scotia than in the other two provinces. Sometimes farms are abandoned because the land is not suited for agricultural production. Sometimes they are abandoned because they are not large enough to provide an income that will maintain a farm family at a reasonable level of living. Such farms are usually absorbed into larger farm units and throughout the years there have been in the Maritimes and in other parts of Canada adjustments in sizes of farms toward more economic sizes. Small units constitute one of the major problems of farmers. This fact should not be overlooked when we see abandoned farms in the countryside but this does not always means that agriculture is decadent. It may mean that some of the farmers have not followed methods of farming that would yield a satisfactory livelihood. Competition from other areas in the production of agricultural products may arise. This results in land which was once used for farming being placed at a disadvantage and it either has to be used in the production of some other agricultural product or of some other commodity as, for example, forests. Forestry production in the Maritime Provinces is obviously one of the big sources of income and farming and forestry can be combined in a manner which has not been sufficiently exploited. A study by Professor Lattimer, entitled *What the Farmers of Cumberland County Told Us,* makes the point that forest products can be an important source of income for people whose main occupation is farming. Professor Lattimer says:

> It has been customary in this country, and still continues, to regard the crop of virgin timber as a prelude only to transposing the area into farm land. Recently there is a new attitude developing. This new idea is that there is a possibility that some land should remain

> in timber. This requires and develops a different attitude toward forestry. The change is toward regarding forest products as an annual crop rather than a crop that may be all taken off at one time, even periodically. Evidence of this change is furnished by the results of this survey.
>
> . . . The total area of farm land reverting to forest and scrub was 1,268 acres. Of this total, 811 acres was reported reverting to forest, and the balance 457 acres reverting to scrub. Many reported that certain parts of their area should be allowed to revert to forest. Of the total number having woodland on their farms, 32 reported that 500 acres should revert to forest. The average number of acres per farm reverting amounted to about 6 acres for the complete survey. Those reporting a profit in their farming operations had an average of almost 8 acres reverting, while those reporting a loss averaged 3 acres. The more prosperous farmers had allowed a larger area of their land to revert to forest.

There has been a net loss in population from the Maritime Provinces and, in each of the Maritime Provinces, there are counties that reached their maximum population many years ago and from which the net emigration has been quite substantial—perhaps migration is a better word. What can be done about a situation of this sort? Migration will continue but the possibilities of developing industries which would be related to the resources of the Maritime Provinces should be thoroughly explored. These are clearly in the fields of forestry, fishing, agriculture and, more recently, the tourist trade. The possibility of the expansion of manufacturing and distributive trades should not be dismissed. For example, there has grown up in Moncton in recent years a very substantial service business, a distributing business which is in part based on the fact that it is a real centre and in part on the fact that it provides facilities that are associated with its natural location which lead one to expect that it might well continue to expand fairly rapidly. However, the opportunities do not seem to be limited to Moncton. We think of the Maritime Provinces as producing apples and potatoes and some livestock, but an example of what might be accomplished is the spectacular development in the poultry industry in recent years.

Most of the additional fertilizer used went on potato land and orchards but there is opportunity for improvement of pasture lands and part of that program means increased fertilization.

Farm Credit.—Credit is only a partial answer to the problem of transfer of farms from one generation to another. Some farmers make wills and some don't. Some make wills only when they are ill. The transfer of the farm should be a family affair and should be planned well in advance of the demise of the parents. Many hold the reins too long—means ought to be explored whereby a man may drop out without being missed too much. That would be his best memorial.

In a study carried on in Dundas County, already referred to, out of 54 transfers of farms, 46 took place after the operator was 60 years of age. Of these, 14 took place when the operators were between 60 and 69 years of age, and 21 took place when the operators were between 70 and 79. Nine took place when the owner was between 80 and 89. In this same study, out of a group of 51 farms operated under single ownership, the average age at the time of taking over the farm was 32·6. Some farmers may not have had savings sufficient to enable them to retire at an earlier age. Some never did retire. Perhaps this tendency to hang on is the result of the small size of business the average farmer operates. Certainly the studies conducted by the Economics Division indicate quite clearly that unless a farmer practises a very intensive type of agriculture, he won't get far with a small farm.

The study in Dundas County of the descendants of the original operators whose location was known, indicated that, out of 917 descendants interviewed, 55 per cent were in Winchester Township; five per cent were in Dundas County but not in Winchester Township; about 29 per cent were in Ontario but outside Dundas County; 4·5 per cent were in Canada but outside the Province of Ontario; and six per cent were in the United States. The point is that approximately 60 per cent of these people were still in Dundas County because of opportunities reasonably close to home. There is not a single town in Dundas County that has more than 7,500 people.

It is extremely important to utilize the best technical knowledge that is available for the improvement of agricultural production. Progress has been made in potato production, in apple production and poultry production; to a lesser degree, progress has been made in livestock production but there is room for a great deal of improvement, not only in the technical processes that are employed but in the organization of the farm business. The Nova Scotia Department of Agriculture has put out two publications in the last two years, one entitled *Organization Makes the Difference* and the other *Size Makes the Difference.* In the last mentioned publication, the points stressed in this article by way of comparison between the Maritime Provinces and the rest of Canada are developed.

There has been a considerable development in part-time farming. It has possibilities if there are jobs to go along with the part-time farming. There are opportunities in the combination of farming and forestry. One of the difficulties in the past has been that forest operations seem to have a greater appeal to the occupants of such farms than agricultural pursuits. The same thing goes for the combination of farming and fishing.

There are opportunities in Maritime agriculture which the provincial extension services and the federal services in the provinces might well assist. There is no way of preventing the movement of population from farms. People should not be encouraged to remain in agriculture if they are unable to achieve a reasonable standard of living.

The situation in the Maritime Provinces varies but birth rates are generally higher in rural areas than in urban centres. Some migration is likely to continue unless opportunities are developed in the Maritime region. However, the provinces in this region that have contributed so much to the business and professional life of this country should be able to overcome these problems in so far as their basic agricultural resources will permit them.

FARM ORGANIZATION IN THE CARMAN, MORDEN, WINKLER AND ALTONA DISTRICTS OF MANITOBA[1]

O. P. Blaich

In the Carman, Morden, Winkler and Altona districts of Manitoba the pressure of population on land has resulted in a more intensive and diversified agriculture. A large part of the population, particularly that east of Morden, is Mennonite whose traditions and customs have kept the young people near home. Consequently the area has become quite heavily populated. The large population and the high quality of the soil have created a heavy demand for land. Land is expensive and farms are small. Because of the difficulty in obtaining more land to increase their size of business, farmers have adopted, as an alternative, more intensive methods and more diversified production programs.

The soils are fertile black earths developed on lacustrine deposits. They range in texture from a light sandy loam to heavy clay. The lighter textured soils have underlying clay at various depths which increases their water retention capacity. The annual precipitation for the area is approximately 19 inches with 11 inches falling between April 1 and September 1. The longtime mean temperature for the months of June, July and August is 64° Fahrenheit. The average frost-free period is 140 days.

Land Utilization.—The average total size of farm was 269 acres, of which the cultivated portion was 216 acres, or 80 per cent. The balance was native pasture and waste land along creeks and drainage ditches.

Wheat, oats and barley were the major crops grown, occupying 46 per cent of the cultivated land. Wheat, the best competitor for moisture, occupied 21 per cent of the acreage and was considered at all times the lowest risk cash crop. Corn and sunflowers together made up 12 per cent of the cultivated land. Because of the very favourable flax price in 1948 the farms grew an average of 31·3 acres of flax. In the spring of

---

[1] This article presents part of the results of an enquiry into the economic aspects of farming and poultry production in the Carman, Morden, Winkler and Altona districts of Manitoba situated in the Red River valley along the International Border. The study was conducted in 1948 and 1949 by the Economics Division, Marketing Service, Department of Agriculture, in co-operation with the Manitoba Department of Agriculture and the University of Manitoba. The results are based on information obtained from 47 farmers who kept accounts of their farm business for the year July 1, 1948-June 30, 1949. The purpose of this article is to discuss the physical and financial aspects of farm organizations in this area with a special view to studying the cropping pattern, the livestock pattern and the financial structure of the farm business.

1949 when the prospect was for a lower price, flax was reduced to 2·2 acres per farm. At the same time the acreage seeded to corn and sunflowers was increased by 23 per cent over the 1948 acreage.

About 5 per cent of the cultivated land was utilized for such crops as rye, millet, buckwheat, mustard, sugar beets, and vegetable canning crops. For the area as a whole these crops had little significance but were quite important to many farmers who operated small units (less than 80 acres). Tame hay and pasture crops made up only 5 per cent of the crop area. This acreage was low because cattle were few in numbers except where enough native grassland was available for the summer pasture.

Only 17 per cent of the cultivated area was in black summerfallow. Summerfallow was not as essential as in some of the drier parts of Manitoba for two main reasons: (1) the crop rotation was extended by the use of intertilled crops and sometimes intertilled crops were substituted for summerfallow in the rotation, particularly when only weed control and not moisture conservation was required; and (2) usually there is sufficient annual precipitation to assure reasonable yields.

Livestock.—All but one of the farms visited raised cattle. The size of herd varied from 2·4 to 30·8 animal units[1] and the average was 8·8 units per farm. In terms of head of cattle there were 5 cows, 4 yearlings and two-year olds, and 4 calves per farm. The cattle were generally of grade stock and a mixture of breeds. They could be broadly classified as dual purpose because four-fifths of the cows were used for milk and cream production. Surplus cream, not required for home consumption, was sold. Farmers who operated a half-section or less milked more cows than those on larger units, which is an indication of the more intensive production that took place on smaller farms.

Pigs were raised on 81 per cent of the farms, with the heaviest concentration on the medium sized units (161 and 320 acres). On farms smaller than this pig production was limited by the quantity of feed that would be available in addition to the amount of crop that the farmers considered a minimum requirement for cash sale. The farmers kept an average of 3·0 animal units of hogs which equalled about one sow and 9 market pigs. The sow was usually slaughtered for home use.

All of the 47 farms had poultry. There were 167 laying hens and 110 birds for meat per farm. On the large farms somewhat larger flocks were kept than on the small or medium sized units. Turkeys, geese and ducks were few in numbers on most farms. There were 2·0 animal units per farm of all classes of poultry.

Horses were kept mainly for choring and winter transportation. There was an average of 2·3 horses per farm with slightly more horses on smaller farms. Only three small farms used horses for all of their field work.

Farm Capital.—The average total farm capital was $16,400 and varied from about $4,000 on a small farm to nearly $68,500 on one of the larger units. The average operator's investment in real estate (land and buildings) was $8,800, which was 54 per cent of all capital. One-half of the operators rented a part or all of the land in their farm units. The long-time value of land and buildings as estimated by both owners and tenants were $37 per acre. However, currently much of the better land is changing hands at from $80 to $100 per acre and very little is selling for less than $60 per acre.

The building values were estimated by the farm operators. In 1948 the value of all buildings was $5,000 per farm. By the end of the accounting year this had increased to $5,400. The increase indicates that considerable construction and building improvement took place. Actually, the expenditure for new construction apart from repairs was $560 per farm, part of which would cover depreciation. As indicated by their higher values, all buildings except laying houses were larger and in better condition on the larger farms. Laying houses were valued higher on the smaller farms. The small farms had an average total building investment of $4,200, the medium farms, $5,200, and the larger farms with more than 320 acres, $7,700. The combined values of the operator's house and main barn made up 72 per cent of the total building value, and laying houses, brooder houses, granaries, garages and implement sheds made up the balance. Most of the granaries were stationary, because a

---

[1] One animal unit of cattle equals 1 mature cow or 2 yearling or two year olds, or 3 calves; one animal unit of hogs equals 3 sows or 5 hogs brought to market weight; one animal unit of poultry equals 100 hens.

Table 1.—Distribution of the Sources of Cash Farm Receipts by Size of Farm and Average Cash Receipts for All Farms, 1948-49

Source of receipts	Size of Farm			Average of 47 farms
	Less than 161 acres	161–320 acres	321 acres and over	
	— per cent —			dollars
Wheat and flax	24	32	43	2,324
Oats and barley	2	9	10	552
Corn and sunflowers	2	12	19	863
Miscellaneous crops and forage	3	4	1	174
Poultry	32	20	11	1,158
Cattle	14	7	8	568
Hogs	6	8	4	379
Livestock produce	12	6	2	351
Custom labour	3	[a]	1	67
Miscellaneous	2	2	1	98
Total cash receipts	**100**	**100**	**100**	**6,544**

[a] Less than ·5 per cent.

granary permanently located in the farm yard was generally close enough for easy access from most of the fields. Furthermore, a large portion of the crop was sold at harvest and little storage space was required except for seed and feed.

Investment in machinery and equipment was quite high. All but six of the farms were equipped with power machinery and tractors, and three of the six had access to power equipment on a family rental basis. Twenty-nine per cent of the total farm capital was for machinery and equipment, or an average of $4,840 per farm, or $18 per acre. The investment in machinery varied from a low of $750 on a small horse-operated farm to a high of $21,500 on a large, highly mechanized farm. Tractors made up 22 per cent of the machinery value; cars and trucks 21 per cent; and combines, threshers, binders, swathers, corn pickers and other miscellaneous harvesting equipment 22 per cent. Tillage and planting equipment totalled 11 per cent and 6 per cent of the total machinery, respectively. Miscellaneous livestock and crop equipment which included such items as sprayers, wagons, harness, tools and numerous small articles made up the balance of 18 per cent.

Table 2.—Percentage Distribution of Cash Expenses by Size of Farm and Average Expenses for all Farms, 1948-49

Type of expense	Size of farm			Average of 47 farms
	Less than 161 acres	161–320 acres	321 acres and over	
	— per cent —			dollars
Machinery operations[a]	18	24	28	634
Car or truck	5	6	4	121
Hardware and blacksmith	2	1	1	41
Crop	9	10	12	275
Custom work	6	5	6	140
Labour hired (less board)	4	4	9	165
Real estate upkeep	10	7	5	176
Farm overhead	11	15	18	400
Livestock	15	12	9	290
Poultry	20	16	8	344
Total expenses	**100**	**100**	**100**	**2,586**

[a] Includes fuel, oil, grease, and repairs for general and special equipment.

Table 3.—Business Summary, Average of 47 Farms, 1948-49

Item	Average
	$
Receipts:	
Total cash receipts	6,543
Sales of capital items	306
Net increase of capital	1,701
Perquisites	740
Total	**9,290**
Expenses:	
Total cash expenses	2,586
Board of all labour and family labour	543
Capital purchases	2,248
Interest on average capital at 5%	813
Total	**6,190**
Labour Earnings	**3,100**

The investment in all classes of livestock and poultry varied from a low of $400 to a high of $9,800. The average for all farms was $2,070, which represented 13 per cent of the total farm capital. Farms in the smallest size group (less than 161 acres) had an average livestock and poultry investment of about $1,550 per farm. Farms in the 161-320 acres group had an investment of $2,050 and farms with more than 320 acres had an average of $2,750 invested in livestock and poultry. The smallest farms had 7 per cent more of their total farm capital in livestock than the largest group. This is indicative of the relatively greater importance of diversification through livestock on the smaller farms.

Seed, feed and supplies made up only 4 per cent of the farm capital. This was low because the inventory was taken on July 1 when only a minimum of feed and supplies were on hand to last until harvest. The seed inventory per acre of cropland decreased as the size of farm increased. The average value of seed per acre of cropland was $1.54.

Farms with more than 320 acres had a smaller portion of their investment in real estate than the smaller sized units. They had proportionately more invested in machinery and equipment as they stressed crop production. The small farms had a greater portion of their investment in cattle, hogs, and poultry as a means of increasing the size of business and so increasing their labour and capital efficiency and also their income.

Labour.—On 94 per cent of the farms studied 75 per cent or more of the farm work was performed by the operator and his family. The total labour hired on a yearly, monthly and daily basis amounted to only 1·8 months per farm. One farm in the large size group had hired a man for the full year. Labour by the month was hired for 1·1 months per farm. This was chiefly on the larger units. Labour by the day was hired for an average of 12 days per farm to assist in seeding, haying and harvesting. Besides the operator, who was considered to be on the farm for 12 months, there was an average of 4·5 months of labour supplied by members of the operators' family. The total labour from all sources (family and hired) amounted to an average of 18·3 months per farm, which was equal to 1·5 men for the year. The total amount of labour varied directly with the size of the farm.

Source of Farm Receipts.—The average cash farm receipts of $6,544 came from many sources. The largest portion was from the sale of wheat and flax which together made up 36 per cent of the total cash receipts. Poultry ranked second, making up 18 per cent of the cash receipts and corn and sunflowers combined were third with 13 per cent. The balance of 33 per cent was from numerous other sources such as coarse grains, minor crops, cattle, hogs, cream, and custom work. Singly, none of these would appear very important but collectively they played an important part in the farm organization.

The total farm receipts were high compared to other areas surveyed in 1948-49. On farms with less than 161 acres the cash receipts averaged $3,018 or $32.14 per acre of cropland. The medium sized farms averaged $6,434 or $29.13 per acre of cropland and the larger farms with more than 320 acres had cash receipts of $12,182 per farm, or $31 per acre. These favourable returns indicate both the high productivity of the soil and the intensity of production.

Although the total receipts from poultry were greater on the large farms, poultry was a much more important source of income for the small operators. Crop sales were a more important source on the larger farm units. The relative importance of the various sources of receipts is shown more fully in Table 1. The significant difference in organization between the various sized units was that the small farms got a larger share of their receipts from livestock and poultry whereas the large farms emphasized crop production.

Farm Cash Expenses.—The importance of individual expense items varied with the size of the farm unit and the type of organization. The average cash expenses per farm were $2,586. They were less than one-half that amount on the smaller farms and more than twice that amount on the larger farms (over 320 acres). The small farms spent a somewhat greater portion of the expense dollar on production of livestock and poultry while the largest size group spent proportionally more on machinery and field crop costs. Table 2 shows the relative importance of farm operating expenses on the different sized farm units.

Financial Summary.—A measure of farm success and over-all operating efficiency is the operator's "Labour Earnings" (Table 3); this represents the operator's return for his labour and management of the farm unit after all farm expenses are met. Included is a credit for farm produce used in the home and an assumed rental for the house as a contribution by the farm to family living. The expenses include a charge for unpaid family labour and also interest on capital. The average labour earnings were $3,100 but they varied from farm to farm—from a loss of over $1,200 to the highest returns of nearly $13,500. This difference was attributable chiefly to farm organization and the operators' ability to manage their farms.

REVIEW OF LITERATURE

Review of International Commodity Problems 1950. Prepared by the Interim Co-ordinating Committee for International Commodity Arrangements, United Nations. Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto.) 1951. pp. viii + 63.

The rapid change during 1950 from surpluses to shortages of commodities is vividly presented in the fourth annual review of international commodity problems prepared by the Interim Co-ordinating Committee for International Commodity Arrangements, a small committee established by the United Nations Economic and Social Council to co-ordinate and facilitate work in the field of international commodity arrangements.

This Review emphasizes the wide fluctuations in commodity prices in recent years and illustrates particularly the rapid rise in prices of certain primary commodities during late 1950.

The activities during 1950 of various inter-governmental organizations in the commodity field are summarized and the operation of the International Wheat Agreement during its first year is discussed. The circumstances leading to the United Nations Tin Conference held in Geneva in late 1950 are summarized and the final resolutions of the Conference are given.

In its discussion of the relationship of commodity agreements to full employment policy the Committee points out that although the successful introduction of stability into international trade in primary commodities would exercise a considerable stabilizing influence on world trade, it must be accepted that the approach to commodity agreements can only be on a commodity-by-commodity basis and is not likely to extend over the whole field of primary commodities at one time.

There are summaries of current trends in 22 internationally-traded commodities: aluminum, cement, coal, cocoa, coffee, copper, cotton, fats and oils, forest products, iron and steel, jute, lead, petroleum, rice, rubber, sugar, tea, tin, tobacco, wheat, wool and zinc.

Black, John D. *The Rural Economy of New England.* Cambridge, Mass., Harvard University Press. 1950. pp. xxiv + 796.

The approach in this book "is from the standpoint of the open country looking toward the city, and not the other way about".

For those who wish to get first hand information on the rural economy in the New England States, this book is an excellent source. It tells about the agricultural, forestry and other land uses in the six states. The author has provided operating statements of different types of dairy, poultry, tobacco, potato, and fruit and vegetable farms. There is information showing year-by-year changes since 1920 in gross and net income, in prices paid, prices received, in physical volume of input and output, and in efficiency of the use of input factors. Chapters are also devoted to farm family living, credit and tenure in land use, and public finance and land use.

This book is an extensive case study in regional analysis. It is divided into 36 chapters, containing 155 charts and 123 tables.

However, as the author indicates, it is not the usual kind of regional study.

> First of all, it does not attempt to analyze all phases of the civilization of New England and bring them all into one focus, as regional planning studies commonly seek to do but rarely if ever succeed in doing. This study instead deals only with the rural economy of its region, and the rural economy is taken in the main to be rural land-use economy.

The methodology developed by the author and his colleagues will be of use to all interested in regional analysis and planning.

Firestone, O. J. *Residential Real Estate.* Toronto, University of Toronto Press. 1951. pp. xxii + 514.

This book is the first major effort by the Central Mortgage and Housing Corporation to provide historical material covering Canada's housing supply and needs. It is a study of the supply of, and demand for, housing in Canada from Confederation to the present. The purpose of the book, according to the author, is two-fold; first, to provide a framework for the past, present and forward-looking housing and population analysis; and second, to make a progress report on empirical research carried out to date and to assess its value and meaning. To meet the purposes set out, the book provides two dozen new statistical series. For the student there is also adequate background data—147 tables, 24 charts, and an appendix reviewing housing legislation.

To those interested in farm housing, the following is of definite interest. The author in the summary of his analysis has this to say:

> Of the 91,000 dwellings built in 1949, only 5,000 units, or 6 per cent, were farm homes. In contrast to this small proportion, people living on farms comprised about one-quarter of Canada's population. The main reason suggested for this small volume of farm home building is the movement off the farms and the low priority which farmers have been inclined to give in the past to expenditures on home improvements in relation to labour-saving and revenue-creating expenditures. The estimates support the claim that comparatively little effort has so far been devoted to improving farm housing standards in Canada.

Hamil, Fred Coyne. *The Valley of the Lower Thames, 1640 to 1850.* Toronto, University of Toronto Press. 1951. pp. xi + 390.

This book is another contribution to the expanding bookshelf of regional histories of Canada. The region of the Lower Thames, comprising the major part of the County of Kent, is now one of the richest and most populous agricultural sections of the Province of Ontario. This story of pioneer Canada tells of the early settlers, roads, bridges, inns and mills; of the development of agriculture and of the growth of community life. The author in his foreword says,

> The history of the Lower Thames Valley is in miniature the history of Ontario, of Canada, or in some respects that of a much wider area. A minute, detailed account of the everyday life of the people—the little people as well as those who ranked as leaders—can give a truer picture of social history, even though confined to one small segment of the country, than a broad treatment which must of necessity overlook many local but significant variations.

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS
FRANK SHEFRIN, Editor

OCTOBER 1951 Vol. XXI, No. 5

CONTENTS

Page
The Economic Situation 99
Technical Assistance to Underdeveloped Countries, Part I *J. B. Smith and J. F. Booth* 101
Farm Success in the Carman, Morden, Winkler and Altona Districts of Manitoba *O. P. Blaich* 106
Wheat Yields and Farm Practices in Central Saskatchewan *J. W. Clarke* 109
A Report on Settlement in the Irrigated Rolling Hills Area of Southern Alberta *H. K. Scott* 112
Improving Efficiency through Quebec Better-Farming Competitions *A. Gosselin and R. Choquette* 115
Review of Literature 119

MARKETING SERVICE, ECONOMICS DIVISION
J. F. BOOTH, Chief

Published by Authority of the Right Honourable James G. Gardiner, Minister of Agriculture

ANNUAL AND MONTHLY INDEX NUMBERS (a)

Wholesale Prices, Farm Prices and Living Cost Indexes

Year	Wholesale Prices 1935–39 = 100				Farm Prices of Agricultural Products 1935–39 = 100 (e)	Commodities and Services used by Farmers 1935–39 = 100		Cost of Living 1935–39 = 100	
	(b) General Wholesale Index	(b) Farm Products	(c) Field Products	(d) Animal Products		(f) Equipment & Materials	(g) Eleven Factor Index	(h) Farm Living Costs	(i) Urban Living Costs
1913	83·4	...	...	...	...	85·4	...	80·1	79·1
1914	85·4	...	...	...	...	90·2	85·3	82·3	79·7
1915	91·8	...	...	...	...	96·9	91·6	86·5	80·7
1916	109·8	...	...	...	...	101·7	100·5	93·7	87·0
1917	148·9	...	...	...	...	140·7	140·5	111·5	102·4
1918	166·0	...	...	...	...	164·1	160·2	131·1	115·6
1919	174·7	...	...	...	...	169·1	167·9	143·0	126·5
1920	203·2	...	...	...	...	190·1	186·5	171·3	145·4
1921	143·4	...	...	...	...	147·4	152·5	139·9	129·9
1922	126·8	...	...	...	...	124·6	134·1	127·9	120·4
1923	127·7	...	...	...	...	118·3	130·6	128·3	120·7
1924	129·5	...	...	...	...	122·3	131·9	125·5	118·8
1925	133·8	...	...	...	...	123·2	131·8	123·9	119·8
1926	130·3	144·4	158·5	130·2	...	119·9	130·6	121·1	121·8
1927	127·3	138·6	149·4	127·8	...	119·9	131·2	119·8	119·9
1928	125·6	136·3	134·3	138·2	...	118·3	129·3	118·5	120·5
1929	124·6	140·8	137·2	144·4	...	117·6	127·9	117·3	121·7
1930	112·9	119·5	105·8	133·3	...	105·6	117·0	113·7	120·8
1931	94·0	78·9	65·0	92·7	...	92·2	100·9	103·9	109·1
1932	86·9	65·5	60·4	70·5	...	89·3	93·3	97·8	99·0
1933	87·4	69·3	69·3	69·2	...	88·8	89·8	95·8	94·4
1934	93·4	83·5	80·5	86·5	...	96·8	95·5	97·9	95·6
1935	94·4	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	96·7	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	107·8	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·0	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	99·2	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	108·0	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	116·4	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	123·0	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	127·9	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	130·6	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	132·1	166·4	162·5	170·2	185·7	125·9	152·1	123·2	119·5
1946	138·9	179·5	177·9	181·2	204·1	128·0	157·0	127·1	123·6
1947	163·3	192·2	184·1	200·2	215·8	139·5	170·4	138·3	135·5
1948	193·4	232·1	200·6	263·7	255·8	173·1	197·4	162·8	155·0
1949	198·3	228·7	191·9	265·4	255·4	180·3	204·1	173·2	160·8
1950	211·2	233·0	184·6	281·4	255·2	189·9	210·4	177·6	166·5
1950									
July	212·0	246·8	197·2	296·4	268·1	...	...	...	167·5
Aug.	215·7	236·3	174·2	298·5	261·1	194·3	218·7	180·7	168·5
Sept.	222·6	234·9	172·6	297·1	256·1	...	...	...	169·8
Oct.	220·0	228·5	170·2	286·8	248·3	...	...	...	170·7
Nov.	222·4	230·4	170·3	290·5	251·4	...	...	...	170·7
Dec.	225·2	234·5	170·6	298·4	256·0	...	...	...	171·1
1951									
Jan.	232·3	242·2	173·5	310·9	261·3	201·0	216·9	184·1	172·5
Feb.	238·5	253·7	177·9	329·6	271·9	...	...	...	175·2
Mar.	241·8	264·2	181·2	347·2	280·9	...	...	...	179·7
April	242·2	256·6	181·6	331·6	278·9	209·6	232·5	197·1	181·8
May	241·9	256·5	177·0	336·1	279·4	...	...	...	182·0
June	242·7	263·8	174·4	353·1	287·4	...	...	...	184·1
July	244·2	268·3	177·8	358·9	293·6	...	...	...	187·6
Aug.	241·5	256·4	164·6	348·3	...	...	...	...	188·9

(a) **Revised each issue.**

b) Canada Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo.) Ottawa, Monthly. Farm Products, wholesale prices of products of Canadian farms.

(c) Ibid (b). Wholesale prices of grains, hay, tobacco and potatoes.

(d) Ibid (b). Wholesale prices of animals and animal products.

(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo.) Ottawa, Monthly.

(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo.) Ottawa, Jan., Apr., and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.

(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.

(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.

(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

THE ECONOMIC SITUATION

Economic activity continued at a high level in Canada during the first part of 1951. Indications are that it will remain at this or reach even higher levels throughout the balance of the year. Production, industrial employment and labour income continued to rise and the value of foreign and domestic trade reached new record levels. Prices too continued their upward movement, in some cases more than offsetting increased earnings. On the other hand, government credit restrictions imposed earlier in the year were beginning to influence a shift in consumer purchases.

Production.—Canada's 1951 wheat crop is estimated at 579 million bushels as compared with 462 million in 1950. The previous record of 567 million bushels was harvested in 1928. A wheat crop of the amount estimated for this year would be almost 50 per cent above the five-year (1946-50) average of 395 million bushels. The total acreage seeded to wheat in Canada this year is 25·7 million acres. This is about 10 per cent below the record 28·7 million acres seeded in 1940. However, the anticipated average yield of 22·5 bushels per acre this year is well above last year's 17·1 bushels per acre and the longtime (1908-1950) average of 16·2 bushels per acre.

In the prairie provinces the wheat crop is expected to yield 548 million bushels as compared with 427 million in 1950 and the previous record of 545 million in 1928. Production in Saskatchewan is estimated at 329 million bushels while that in Alberta is 169 million and that in Manitoba is 50 million bushels. In the remainder of Canada, production is estimated at 31 million bushels, of which 26 million is in Ontario.

Production of oats in 1951 is estimated at 502 million bushels as compared with 420 million in 1950. It is the fifth largest on record and compares favourably with the 1946-50 average of 349 million bushels. Increases in Alberta and Saskatchewan will more than offset expected reductions in Manitoba, Quebec, Prince Edward Island and Nova Scotia.

This year's barley crop is estimated at 251 million bushels, the second largest on record. It is almost 86 million bushels larger than the 1950 crop. Most of the increase occurred in Alberta and Saskatchewan.

The 1951 rye crop is expected to be 18·8 million bushels, almost one half as large again as that harvested last year. Almost all of this crop will be harvested in Alberta and Saskatchewan.

Flaxseed production this year is estimated at 9·9 million bushels, about double that of last year. A crop of this size would be the same as the ten-year (1941-50) average but above the 1946-50 average of 8·7 million.

Production of mixed grains, grown chiefly in eastern Canada, is expected to set a new record. The 1951 crop, estimated at 81·4 million bushels, is being harvested from a seeded area of 1·8 million acres with an indicated average yield of 45·1 bushels per acre.

This year's production of hay and clover, estimated at 17·9 million tons, is the fourth largest on record and is almost one-third larger than last year' crop. Increases in production occurred in all provinces in eastern Canada but in western Canada only Alberta production of hay and clover is expected to be greater than last year.

The 1951 potato crop is estimated at 70·9 million bushels as compared with 97·0 million in 1950. This has resulted from smaller acreages in all provinces and lower yields per acre in all provinces except Saskatchewan and Alberta.

Employment and Earnings.—Canada's civilian labour force and the number of persons with jobs reached new records this year. In June the labour force was estimated at 5,332,000, of which 5,247,000 had jobs. Only 85,000 persons were without jobs and seeking work in June, 1951, as compared with 140,000 in June, 1950. The non-agricultural labour force continued its upward trend and increased to 4,100,000 in June, 1951, from 3,953,000 in June, 1950. The agricultural labour force, on the other hand, declined from 980,000 in June, 1950, to 918,000 in June, 1951.

It would appear that there is no important supply of totally unemployed persons available to fill any expansion in the number of jobs available. Any such increase in job holders would have to take place by recruiting from those ordinarily outside of the civilian labour force. The number of such persons not in the labour force increased from 4,202,000 in June, 1950, to 4,274,000 in June, 1951.

Employment in the major industrial groups reached record high levels at July 1, reflecting greater economic activity. Improvements were particularly marked in manufacturing, transportation, storage and communication, and in construction. The general index of employment (1939=100) was 183·4 at July 1, 1951 as compared with 180·3 at June 1, 1951 and 170·8 at July 1, 1950. Not only is the level of employment higher in Canada as compared with last year, but weekly earnings per capita of wage-earners and salaried employees in the principal non-agricultural industries also increased. Weekly earnings per capita at July 1, 1951 were estimated at $50.10 as compared with $45.04 on the same date one year ago.

These increases in employment and earnings in the major industrial groups of the economy are also reflected in the estimates of Canadian labour income for the first six months of the year. The total wages, salaries and supplementary income of paid workers in the labour force increased 18·7 per cent during the month of June continuing the expansion in earlier months over the same months of last year. In the year ending May, 1951, labour income rose 17·3 per cent; in the same period the index of employment, excluding fishermen and agricultural workers, rose 8·1 per cent, and average weekly earnings increased 10·6 per cent.

Trade.—Both domestic and foreign trade reached new high levels this year. Retail trade, during the first half of 1951, increased almost 16 per cent over the corresponding period of 1950. Gains in sales were recorded by motor vehicle dealers with a rise of 35 per cent; grocery and combination stores with an increase of 15·3 per cent; hardware with a rise of 15·1 per cent; and country general stores, lumber and building materials, meat, garages, variety stores, appliance and radio, men's clothing, and drugs, all with increases ranging from 14·2 per cent to 10·3 per cent. However, such increases as these are not continuing into the second half of the year. Credit restrictions imposed earlier in the year have discouraged sales of many kinds of consumer durable goods such as automobiles. By the end of the year, significant changes in retail sales may be expected to have occurred.

Canada's foreign trade was higher in July this year than in the same month of 1950. Exports of domestic commodities in July, 1951, were valued at $375 million as compared with $254 million in July, 1950. Imports also rose markedly. In July, 1951, it is estimated that goods valued at $371 million were imported into Canada as compared with $260 million in July, 1950. This is a continuation of the higher level of both imports and exports established for the first half of the year. During the first six months of 1951 exports were valued at $1·74 billion as compared with $1·43 billion for the first half of the previous year. Imports during the first half of 1951 were valued at $2·10 billion as compared with $1·45 billion in the corresponding period of 1950.

Prices.—Wholesale prices were almost 15 per cent higher in July, 1951, than one year earlier. The index (1935-39=100) was 244·2 in July, 1951, as compared with 212·0 a year earlier. Increases occurred in five of the eight sub-groups comprising the general index from June to July this year when the index rose from 242·7. Prices of animal products, wood products, and iron products increased two to three per cent while those for non-metallic minerals and chemical products rose only a negligible amount. Prices of vegetable products, textile products, and non-ferrous metals declined slightly from June to July, 1951.

Retail prices continued to rise during the first half of the year. By August 1 the retail cost-of-living index (1935-39=100) was 188·9. This is 20 points higher than one year earlier. The food index rose from 216·7 at August 1, 1950, to 251·4 at August 1, 1951. Prices of other commodities and services also increased markedly during this period; the clothing index rose from 180·9 to 204·6; home furnishings and services increased from 168·9 to 199·0. Prices of fuel and light, rent, and miscellaneous registered smaller gains.

TECHNICAL ASSISTANCE TO UNDERDEVELOPED COUNTRIES, PART I

J. B. SMITH and J. F. BOOTH

In relation to the United States, Canada, Australasia and Western Europe, the economies of many countries are underdeveloped. In such countries large scale underemployment and unemployment prevail. Much inefficiency is found. National and per capita income is strikingly low.[1] The output of food and other essentials of life falls far short of requirements. Illiteracy and disease are widespread. Life expectancy at birth is low. "Malnutrition is the rule and starvation not uncommon."[2]

Underdeveloped countries are poor because they lack physical capital such as buildings, machines, land improvements, equipment and tools. They also lack scientific knowledge, technical "know-how", and other intangibles which are conducive to economic development.[3]

The economy of underdeveloped countries is typically agrarian. The ratio of population to land is high and methods of farming are primitive. Little has been done to provide satisfactory agricultural credit. Tax burdens and the tenure systems encourage fragmentation and inefficiency.[4] Skilled labour in these less fortunate areas is extremely limited and labour in general is often underemployed. The productivity per man "is less than one-tenth of that achieved in more advanced countries".[5]

In contrast to the Western world problem of reconciling limited labour resources with relatively plentiful supplies of capital and land, underdeveloped areas are confronted with the task of adjusting very limited supplies of capital goods and comparatively limited areas of land to an abundant supply of unskilled labour; and this with the object of increasing production, developing markets[6] for increased output and thus increasing the per capita real income.

Recognition of the existence of a dire situation in various parts of the world is not peculiar to the present age. Records of the provision of assistance to needy peoples in certain areas of the globe date back to the Old Testament. In the present century the unfortunate position of so large a portion of the world population has gradually become a problem of international, rather than merely national, concern.

Development of Technical Assistance.—First concerted attempts at rectifying the deplorable levels of nutrition in many countries were made by committees organized under the League of Nations.

The Second World War, like World War I, brought about food shortages. The need for a program to increase the output of foodstuffs and to ensure better distribution of available food supplies became more apparent at this time than ever before.

In May 1943, at the Hog Springs Conference, called by the President of the United States, the foundation was laid for the Food and Agriculture Organization. This organization, designed to promote "good living, health and peace"[1] came into being at Quebec City in October 1945. It was from the outset recognized that food supply conditions could not be improved substantially in the absence of development in other fields. Extending of assistance over the whole of the national economy of underdeveloped countries was indispensable to general economic progress.

---

[1] *Technical Assistance for Economic Development* (E/1327 add 1). United Nations, Lake Success, N.Y. May 1949. p. 4.

Note: The income per head in the United States in 1947 was over $1400; in 14 other countries it was estimated to range betwen $400 and $900, and in 21 other nations "comprising substantially more than half the world's population average income was less (often much less) than $100 per year".

[2] Ibid. p. 4.

[3] Ibid. p. 4.

[4] *Report to the President on Foreign Economic Policies.* U.S. Government Printing Office, Washington, D.C. Nov. 1950. p. 50.

Note: See also the FAO publication *The Consolidation of Fragmented Agricultural Holdings.* United Nations, Washington, D.C. Sept. 1950. pp. 1-32.

[5] E/1327 add 1. op. cit. p. 4.

[6] For a further discussion on the importance of markets see *Formulation and Economic Appraisal of Development Projects, Book 1.* United Nations Lectures, Sahari, Pakistan. Oct.-Dec. 1950. p. 3.

The U.N. Regular Program.—In the full awareness that a just and stable peace could exist only if based on reasonable levels of economic and social welfare for peoples of all countries, the signatories of the United Nations Charter laid the cornerstone of the United Nations Technical Assistance Program by pledging themselves to promote, amongst other things, "higher standards of living, full employment and conditions of economic and social progress and development".[2] In some respects the U.N. program was a continuation of the work begun by the League of ,Nations but, in broad terms, by "Technical Assistance" was meant any aid, exclusive of direct funds and relief, designed primarily to assist member countries in their economic development.[3] It thus became the purpose of organized technical assistance programs to aid underdeveloped countries in making more efficient use of their resources and to raise not merely their average but the minimum standards of living.

The agencies by or through which technical assistance is rendered include: The United Nations General Assembly; The Food and Agriculture Organization; The International Labour Organization; The United Nations Educational, Scientific and Cultural Organization; The International Civil Aviation Organization; The International Monetary Fund; The International Bank for Reconstruction and Development; The International Telecommunications Union; The World Health Organization; and, pending ratification, The International Trade Organization.

The United Nations and the specialized agencies make available technical aid to all governments participating in one or more U.N. organizations. The types of assistance (described briefly below), rendered by the international organizations, include the following: Technical Missions, Technical Research and Technical Information, Equipment and Supplies; International Training, and International Conferences, Committees and Panels.

1. *Technical Missions.*—In the past, technical missions have been organized and sent upon request to member countries to assist governments with many aspects of economic development. These missions varied in size from one expert in a restricted field to a large group of experts prepared to deal with the whole of a nation's economy. They could be advisory or educational or both. One of the most comprehensive technical missions despatched during the early history of the United Nations was that sent to Haiti in 1948. This mission, comprised of experts in fields of agriculture, public finance and administrative organization, banking and credit, public health and education, was organized by the United Nations and specialized agencies at the request of the government concerned,

> To examine the problems of and the conditions affecting the economic development of Haiti primarily in the fields of agriculture, industry and related activities, having regard to the interrelated economic and social problems, bearing, in particular, on the improvement of health and education.[4]

On the basis of its finding, the mission was committed to formulating practicable measures, "designed to promote the economic development of the country".[5]

---

[1] Hambridge, G. *Cornerstone for a House of Life.* FAO Bul. United Nations, Washington, D.C. 1946. p. 1.

[2] *United Nations Charter;* Article 55. See also Article 56.

[3] *Technical Assistance for Economic Development.* United Nations Dept. of Economic Affairs, Lake Success, N.Y. Sept. 1948. p. iii.

[4] Ibid. p. 4.

[5] Ibid.

2. *Technical Research and Technical Information.*[1]—The second form of assistance was that made available through (a) International Clearance Centres; (b) Publications on Particular Aspects of Economic Development and (c) Laboratories for investigating particular problems.

(a) International Clearance Centres collect information and publish analyses and reports regarding their specific and related fields. To illustrate: The Staff of the Epidemological Intelligence Service of the World Health Organization (WHO) which has its office at Geneva, collects information from all parts of the world on plague, cholera, small pox, typhus and yellow fever. Additional data on various other communicable diseases are obtained from many regions. The organization publishes in the *Weekly Epidemological Record,* statistics, reports and analyses of its findings.

(b) The U.N. and the specialized agencies have provided technical information on subjects ranging from *Using Salty Land,* prepared by FAO, to the U.N. publication *Economic Development in Selected Countries.* A variety of information is also available in the form of pamphlets, periodicals and motion pictures.

(c) The Laboratories of the International organization are of two types. The first is regional and is concerned with problems of a particular area. The FAO field research centres in the Near East, established for the purpose of investigating problems of particular interest to Members of that specific area, are examples of this type of laboratory. The second type of laboratory is that set up as a centre of world research on problems in a particular field, e.g., the International Influenza Centre in London—established by WHO. Its work is centred around the standardization of biologicals.

3. *Equipment and Supplies*[1].—Further assistance is made available to Member nations by certain international organizations in the form of equipment and supplies. This form of aid is limited and is given in particularly urgent cases. Under this provision, assistance in the past consisted largely of medical supplies and equipment, laboratory and teaching equipment, and seed. These were made available through WHO and FAO. Egypt, in particular, benefited by the program. In 1948 the cost of supplies for the control of an outbreak of cholera was reduced by an estimated $225,446 through the work of WHO and other authorities. Other countries benefiting in various ways included Austria, China, Finland, Greece, Italy, Poland, Yugoslavia, Czechoslovakia, Denmark, the Ukraine and Byelorussia.

4. *International Training*[2].—A fourth type of assistance rendered by the U.N. and participating organizations is that of providing facilities for international training. Several hundred study grants in such diversified fields as science, cinema, radio, librarianship, music, dentistry and social welfare had been made during 1948. In addition, a number of special schools have been sponsored. For example, in 1947, FAO sponsored in Europe, courses of instruction in respect of hybrid corn, laboratory techniques in handling sera, and in artificial insemination.

5. *International Conferences, Committees and Panels*[3].—Numerous conferences convened by the United Nations and specialized agencies are sources of technical information. These conferences fall into two broad categories; first, there are the ones convened for the sole purpose of exchanging technical information, e.g., The World Statistical Conference, (Washington 1947) and The International Meeting on Tropical Housing (Caracas 1947).

---

[1] Ibid. p. 5.

[2] Ibid. p. 9.

[3] Ibid. p. 10.

The second, and more common type of conference, is that held for the exchange of technical information on specific problems as a basis for formulating measures to solve these problems. Such conferences are held by most international bodies. The Economic and Social Council, for example, in setting up the Regional Economic Commission for Europe, has provided for some fifty subsidiary bodies dealing with various technical problems in connection with "the expansion of production and exchange of coal, timber, steel, electric power, various raw materials and types of equipment, and the development and improvement of transport".[1]

The above types of assistance are available to all governments participating in the United Nations and/or in any of the specialized agencies. Assistance is made available, however, only on the basis of requests made by, or through governments concerned. Regardless of how apparent the need for aid might be, none of the international organizations may take any action unless a formal request is received from, or through, the government concerned. Co-ordination of the activities of the specific agencies by, or through, which technical aid is rendered is carried out by the Administrative Committee on Co-ordination.

During the period 1946 to 1949 (as indicated briefly in the foregoing) many technical assistance projects were initiated. Some of these are already complete, others are still approaching their initial objectives.

The United Nations Organization Expanded Program for Technical Assistance.—On January 20, 1949, a new challenge in respect of technical assistance was laid before the international organizations. In his inaugural address, the President of the United States outlined what is now known as the Point Four Program. In it the President suggested the making available to "peace loving peoples . . . the benefits of scientific advances . . . industrial progress . . . and stores of technical knowledge . . . for the improvement and growth of underdeveloped areas."[2]

Although the President's plan was mainly of bilateral significance, the United States delegates to the United Nations proposed that the Economic and Social Council investigate the possible scope of U.N. activity in respect of this program. The Council later recommended to the General Assembly the adoption of the Expanded Technical Assistance plans. The Recommendation was accepted and on May 18, 1949, through the co-operative efforts of the Secretaries of the United Nations organizations, a report on the proposals for the Expanded Program was tabled before the Administrative Committee on Co-ordination.

Numerous proposals for the expanded technical assistance plans were submitted in considerable detail. Definite methods of approach to specific problems were stipulated and the cost of individual projects estimated. The guiding principle in each recommendation was that laid down in the original U.N. Charter and in subsequent resolutions.

Space does not permit the enumeration of all the proposals made. However, in order to make clear the scope of the expanded technical assistance program, a few examples are given below.

Thus, to become a part of the new program in the first two years of its operation the U.N. itself proposed the following[3]:

---

[1] Ibid. p. 10.

[2] Point Four. *Co-operative Program for Aid in the Development of Economically Underdeveloped Areas.* United States Dept. of State, Washington, D.C. Revised Dec. 1949. p. 1.

[3] *Technical Assistance for Economic Development; Plan for an Expanded Co-operative Program through United Nations and the Specialized Agencies.* United Nations, Lake Success, N.Y. May 1949. p. 53.

(a) Comprehensive, exploratory surveys designed primarily for the purpose of assisting underdeveloped countries in determining the particular services they require.

(b) Technical advisory services—to be concerned chiefly with planning projects, administration, etc.

(c) Scientific and industrial research—to overcome specific impediments to economic development and to exploit resources.

(d) Training to assist in building up a domestic corps of technical and specialized personnel.

(e) Pilot and demonstration projects to serve as models.

(f) Dissemination of technical information.

FAO made more than 50 proposals in all.[1] These dealt with many aspects of development in Agriculture, Forestry and Fisheries, and included such broad fields as Land Management, Animal Production, Marketing, Credit, Nutrition, Statistical Services and so on.[2]

The ILO's proposals covered 15 fields including: Industrial Relations; Wages Policy; Industrial Safety; Occupational Health; Social Security; Technical Advice in connection with specific industries and other important matters relating to labour.[3]

The other specialized agencies each made proposals for work to be undertaken in their specific fields.

Through this program new administrative machinery was established. The Technical Assistance Committee (TAC) was set up and was made responsible to the Economic and Social Council. Under this Committee serves the Technical Assistance Board which is the main co-ordinating body of the new program.

Applications for Technical Assistance, which must originate with the government desiring to participate, may be directed to any of the specialized agencies or to the Secretary General of the U.N. Applications considered to be of major consequence are carefully scrutinized by the TAB.[4]

In order to assist in the financing of the new program the General Assembly approved the establishment of a special fund to which the various countries would contribute on a voluntary basis. As at December 31, 1950, of the $20,046,552 pledged by 54 governments, $7,470,741 had been received in the Special Account.[5] Obviously, all costs of the expanded program could not be met from the relatively small amount of money. Thus the Fund is responsible for salaries of experts, the cost of training personnel in technologically advanced countries, and for other expenditures which must be made in foreign currency. On the other hand, all expenditures made in domestic currency are met, so far as possible, by governments requesting the technical assistance.

However, it would be an error to assume that economic development can progress in any appreciable degree through the mere meeting of initial expenses. Of far greater consequence is the availability of investment capital.

---

[1] *The Third Report of the Technical Assistance Board on the Activities and Progress of FAO under the Expanded Program of Technical Assistance for Economic Development*, May 1, 1951, indicates the scope of recent FAO activities. Since October 1950 when FAO was allocated some $4,875,000 from the United Special Account (for technical assistance) it has made agreements with 32 governments and completed seven projects. Field work in 61 other projects has been initiated and a further 14 projects have been deferred for initiation in 1952. Currently there are 36 supplemental agreements under negotiation.

[2] *Technical Assistance for Economic Development.* op. cit. p. 75.

[3] *Technical Assistance for Economic Development; Plan for an Expanded Co-operative Program through the U.N. and the Specialized Agencies.* U.N., Lake Success, N.Y. May 1949. Ch. 11 and 12.

[4] *Canada and the United Nations 1949.* Canada. Department of External Affairs, Ottawa, 1950.

[5] *Second Report of the Technical Assistance Board to the Technical Assistance Committee* (E/1911). United Nations, Lake Success, N.Y. Jan. 1951.

Such capital in underdeveloped areas is generally in very limited supply. A number of proposals for increasing the supply of domestic capital were made by some of the U.N. specialized agencies. These proposals, in the main, were directed at policies to encourage personal saving, increase exports and guide investments.

Further proposals were made for eliminating the obstacles to private international investment. In addition it was hoped that with better planning made possible through the technical aid programs, greater assistance would be forthcoming through international government loans and from the International Bank for Reconstruction and Development.[1]

FARM SUCCESS IN THE CARMAN, MORDEN, WINKLER AND ALTONA DISTRICTS OF MANITOBA[2]

O. P. Blaich

Stability of farm income at a level high enough to satisfy wants is desired by all farmers. Some of the causes of instability such as adverse weather conditions and changes in cost-price relationships are largely uncontrollable. However, to reach and maintain a high level of income relative to that of other operators in the area is within the farmer's control. The farm operator's control over his income level lies in his ability to organize his farm business and to achieve optimum use of his farm resources—land, labour and capital. Proper adjustments in farm organization can also help to stabilize the farm income.

This article deals chiefly with the reasons for variations in levels of farm incomes on 47 farms near the towns of Carman, Morden, Winkler and Altona and suggests means by which the lower income farmers may reach a higher level. The soils on these farms were of nearly equal productivity; the climate and prices were similar, since all accounts were taken in 1948-49. Nevertheless the labour earnings (operator's returns for labour and management) varied from a loss of $1,200 on a small, poorly organized and poorly managed farm to a gain of nearly $13,500 on a large farm with well balanced resources and very good management.

Farm Organization[3].—The soils and climate in the area are suitable for the production of corn, sunflowers and sugar beets as well as for all of the common cereals. Since a high percentage of the land was cultivated, cattle were not raised extensively. Hog and poultry production fitted well into the farm organization and were limited only by their economic returns relative to crop production and by the availability of capital, feed or labour. The average size of farm was 269 acres.

To illustrate more clearly the effects of management on labour earnings the 47 farms were broadly classified according to the proportion of the labour which was devoted to the various farm enterprises. Accordingly, twenty-seven of the farms were classed as "mixed livestock" and the other 20 were classed as "mixed crop farms".

Size of Farm.—One of the many reasons for a low level of farm income is small size of business. Many of the overhead and operating expenses are relatively fixed with the result that farmers with small farms generally have a high fixed cost per unit of output. A reduction in unit costs can best be obtained by increasing the size of the farm business. Furthermore, operators of small farms cannot reach a high degree of labour efficiency because there is not enough work available to fully utilize their own labour and that of their families. The size of the farm business

---

[1] *Methods of Financing Economic Development in Underdeveloped Countries.* United Nations, Lake Success, N.Y. 1949.

[2] This article presents part of the results of a more extensive inquiry into the economic aspects of farm and poultry production in the Carman, Morden, Winkler and Altona districts of Manitoba. The data were obtained from accounts kept by 47 farmers for the year July 1, 1948 to June 30, 1949. The study was conducted by the Economics Division, Marketing Service, Canada Department of Agriculture, in co-operation with the Manitoba Department of Agriculture and The University of Manitoba.

[3] The organization of these farms is treated more fully in the August issue of the Economic Annalist, p. 91-95, "Farm Organization in the Carman, Morden, Winkler and Altona districts of Manitoba".

Table 1.—Total Size of Farm in Relation to Labour Earnings on Crop and Livestock Farms, 1948-49

Size of Farm Business[1]	Number of Farms	Total PMWU's[a]	Labour Earnings	
			per Farm	per PMWU
			$	$
Livestock Farms				
300 PMWU's or less	17	192	1,276	6.64
Over 300 PMWU's	10	373	3,559	9.54
Crop Farms				
300 PMWU's or less	8	266	2,496	9.38
Over 300 PMWU's	12	480	5,696	11.86

[a] Size of farm is measured by Productive Man Work Units (P.M.W.U.). A productive man work unit is a comparative measure of the amount of productive work which may be accomplished by a man in a ten-hour day.

also reflects the operator's managerial ability. Managers with above average ability strive for farm units of above average size.

Land, the primary factor necessary for agricultural production, was relatively scarce in this area. Consequently the operators of small farms employed more intensive practices and a more diversified program in order to increase their size of business. However, diversification through livestock and poultry did not yield as high a rate of return for the operator's labour as crop production (Table 1). Farmers with less than average amounts of land generally had lower labour earnings than their neighbours with larger acreages.

For both types of farms the labour earnings per productive man work unit and particularly the total labour earnings were considerably higher on the larger farms. With a larger size of business there was a greater opportunity to attain a high degree of efficiency in the use of labour and capital and a better balance between land, labour and capital resources.

Crop Yields.—Above average crop yields were important to every farm business whether the crop was sold directly or marketed through livestock. However, higher crop yields increased the labour earnings much more on the crop farms than on the livestock farms (Table 2). The livestock farms with yields averaging 19 per cent below average had labour earnings per farm $500 less than those with yields averaging 20 per cent above average. On the crop farms a 32 per cent yield difference between the above and below average groups was associated with a $4,000 difference in labour earnings; this was also partially due to the smaller size of business on the farms with below average yields.

The highest single crop yields recorded were obtained by livestock farmers. This lends some support to the thesis that a well organized livestock program, and proper use of manures can help to increase or maintain soil fertility. However, the yields obtained by crop farmers were less variable than those obtained by the livestock men.

Livestock Returns.—High returns from livestock were important to the farms studied as nearly 60 per cent of them had over half of their productive man work units in livestock and 38 per cent of the cash receipts of all farms were from the sale of livestock and livestock products. Even on the "crop" farms, higher returns from livestock were an important factor in increasing labour earnings. The livestock farms with an above average rate of livestock returns had labour earnings two

Table 2.—Crop Yields in Relation to Labour Earnings on Crop and Livestock Farms, 1948-49

Crop Yield Index	Number of Farms	Average Crop Yield Index	Total PMWU's	Labour Earnings per Farm
		%		$
Livestock Farms				
Above average yields	11	120	238	2,433
Below average yields	16	81	253	1,813
Crop Farms				
Above average yields	10	117	454	6,421
Below average yields	10	85	355	2,411

Table 3.—Livestock Returns in Relation to Labour Earnings on Crop and Livestock Farms, 1948-49

Livestock Returns per $100 Invested	Number of Farms	Average Livestock Returns per $100 Invested	Labour Earnings per Farm
		$	$
Livestock Farms			
Above average returns	15	153	2,865
Below average returns	12	88	1,193
Crop Farms			
Above average returns	12	176	4,620
Below average returns	8	74	4,109

and a half times as high as those with below average returns. On crop farms the effect was less marked (Table 3).

The average rate of livestock returns (returns per $100 invested in livestock) was about the same on the crop farms as on the livestock farms. However, the rate of returns varied less amongst the livestock farmers than amongst the crop farmers.

Labour Efficiency.—As already stated, many of the farms were too small to fully utilize the available family labour. On farms that were too small and where most of the work was done by the family an over-supply of labour could not be reduced as readily as on the large farms where much of the labour was hired. The small farmer's only alternatives in getting efficient use of labour were to find part-time work off the farm or to increase the size of business by raising more crops, livestock or poultry, either by more intensive production or by getting more land. To get reasonable efficiency in the use of labour an average family of 1·4 workers would require at least 280 acres of cropland with enough livestock and poultry to make up a total of 330 productive man work units. The minimum size of farm necessary for efficient labour use would vary with the amount of family labour available.

The most efficient users of labour (over 250 PMWU's per man) had the highest labour earnings because their workers were more fully occupied and with good labour management and proper job organization they were able to accomplish more work with less effort than the other farmers. The workers in the efficient group handled 210 acres of cropland and 13·4 animal units of livestock and poultry per man as compared with the least efficient farmers who handled only 74 acres of cropland and 7·2 animal units per man. The effect of greater labour accomplishment on labour earnings is shown in Table 4.

Capital Efficiency.—Farming today requires a large amount of capital. The annual capital costs, including interest, insurance, depreciation, taxes and repairs are in proportion to the total capital. Consequently, capital must be used to best advantage and over-investment avoided. Inefficiently used capital paves the way to failure.

The usual measure of capital efficiency in farming is the number of years that it would take for the cash receipts to equal the farm capital. This varies with the type of farming and also with the natural and economic conditions, all of which affect the total cash receipts. The average rate of capital turnover for the farms

Table 4.—Labour Efficiency in Relation to Labour Earnings, 1948-49

PMWU's per Man	Number of Farms	Average PMWU's per Man	Crop Acres per Man	Animal Units per Man	Labour Earnings per Farm
					$
Less than 175	18	129	74	7·2	1,309
175–250	13	206	160	6·9	3,884
Over 250	16	308	210	13·4	4,477

Table 5.—Effect of Rate of Capital Turnover on Labour Earnings, 1948-49

Years for Cash Receipts to Equal Capital	Number of Farms	Labour Earnings per Farm
		$
Less than 2	13	4,272
2–3	21	3,669
Over 3	13	1,007

studied was 2·5 years and was more rapid on the crop farms than on the livestock farms.[1] Whether farmers emphasized livestock production or crop production, a faster rate of capital turnover was associated with higher earnings. Table 5 shows that farms with a rate of turnover faster than two years had labour earnings of about $4,300 and those with a rate of turnover slower than three years had labour earnings of only $1,000.

On the crop farms the best capital efficiency and the highest labour earnings were obtained on farms where about 65 per cent of the farm capital was invested in real estate and 35 per cent in working capital. On the livestock farms the most favourable capital balance was obtained on farms where about 45 per cent was invested in real estate and 55 per cent in working capital.

Importance of factors.—For successful farm operation a farmer must attain a high degree of efficiency in all five factors mentioned, size, crop yields, livestock returns, labour use and capital use. Achieving above average efficiency in only one or two of these was not enough to assure average labour earnings. The farmers who were better than average in three of the factors had approximately average labour earnings, while those efficient in four or all five had labour earnings considerably above average.

While increasing the efficiency of any one of the factors can increase the labour earnings it was the combined efficiency of all factors that had the greatest effect. Furthermore, farmers who were just near the average in all five factors had only average earnings. It is therefore desirable to operate at a level of efficiency above average in all factors if higher than average earnings are expected. There is no better insurance against loss than efficient management.

WHEAT YIELDS AND FARM PRACTICES IN CENTRAL SASKATCHEWAN

J. W. Clarke

Scientific and technological advances have made it possible for the farmer to exercise an increasingly greater control over the physical forces which determine agricultural output—weather, soil, disease, and yield productivity of plants and animals. Available evidence shows that the technological knowledge and managerial skill of the producer as revealed in his farm practices constitute an important, if not a dominant, factor influencing total output.

Purpose and Method of Study.—In 1950, the Economics Division of the Federal Department of Agriculture in co-operation with the Department of Farm Management at the University of Saskatchewan, undertook a study of the farm practices of the farmers in the rural municipalities of Wreford No. 280 and Usborne No. 310. The general objective of the survey was to gather information relating to different methods of production so as to compare the farm practices carried out by farmers of the area and to try to correlate those practices with success in handling specific problems, such as soil drifting, maintenance of soil fertility and moisture conservation.

The study was conducted by the survey method. Calls were made during the summer of 1950 on all farms of the area in order to obtain complete data on farm practices. A total of 360 records was obtained from the 439 farmers of the area which gave a coverage of 82 per cent.

---

[1] The rate of capital turnover is based on 1948-49 price relationships.

Characteristics of the Area.—The rural municipalities of Usborne No. 310 and Wreford No. 280 lie mostly within the Dark Brown soil zone and immediately north of Last Mountain Lake. The topography and landscape of this area are typically prairie. The soils are quite variable and include loams, gravelly and sandy loams, light and fine sandy loams and numerous mixtures of these. Moisture is the main limiting factor in grain production and soil drifting is an ever-present hazard.

Classification of Farms According to Soil Type.—Because no trend in farm practices was evident in the analysis, either for size of farm or for soil type, it was decided to carry out a detailed study of wheat yields and farm practices to see if there was some correlation between the high yields that some farmers enjoyed and the farm practices they carried out.

A detailed classification of farms according to soil type was necessary to eliminate all possible variations in yield due to differences in soil before attempting to indicate any correlation between yield and practices. The soils of the area were divided into groups according to the"comparative index ratings[1] given in **Soil Survey Report No. 12.**[2]

Of the 360 farmers included in the study, 17 were found to be situated on Group V soils; 120 on Group VI soils; 57 on Group VII soils; 42 on Group VIII soils; 68 on Group IX soils; and 56 on Group X soils. It can be seen from this information that the farms of the area under consideration were situated on fair to poor wheat producing soil.

Yield Variability Between Farms.—The wheat yields of the farms within each soil group were studied separately and the farms obtaining consistently low yields from year to year were segregated, as were the farms obtaining consistently high yields. It was found that in the majority of cases in each soil group, the farms with consistently low yields were situated in R.M. 280 and those with consistently high yields in R.M. 310. To eliminate this variability between municipalities, consistently low and high yielding farms for each soil group were picked within each rural municipality. A satisfactory number of records was not obtained for each soil group in R.M. 280 to give reliable wheat yield comparisons. However, the yearly wheat yield averages for the 1945-1949 period for low and high yielding farms in R.M. 310 were compared. The results are set out in the following table.

The above figures represent yield averages for groups of farms picked as having consistently low yields or consistently high yields compared with the average farm yield for each soil group. The difference in average yields between the low yielding and the high yielding group of farms for the five year period average approximately 10 bushels for Group V; 11 bushels for Group VI; 10 bushels for Group VII; 14 bushels for Group VIII; 12 bushels for Group IX; and 10 bushels for Group X. This yield differential was between groups of farm situated on the same type of soil and within the same locality. Some of this large differential may have been due to climatic factors. However, no pronounced geographic bunching of low or high yielding farms was found within the municipal unit. This tended to indicate that most of the yield differential was due to factors other than soil and climate. With this situation in mind a detailed study of those farm practices most closely associated with wheat production was made.

Farm Practices on High and Low Yielding Farms.—The most surprising information that came to light in this study was not the differences that showed up between practices but rather the high degree of similarity of practices between the farmers who got high yields and those who got low yields. This seems to indicate that it is not only 'what' practices are carried out, but 'when' and 'how' they are carried out, that is important. The management factor in regard to the little details may be more important than has been thought.

---

[1] These index ratings reflect mainly suitability for wheat growing with Regina Heavy Clay having a rating of 82. Group I includes all soils with a rating of 80 and over; Group II, 74-79; Group III, 68-73; Group IV, 62-67; Group V, 56-61; Group VI, 50-55; Group VII, 44-49; Group VIII, 38-43; Group IX, 32-37; and Group X includes all soils with a rating of 31 or less.

[2] J. Mitchell, Soils Dept., Univ. of Saskatchewan, and H. C. Moss and J. S. Clayton, Dominion Dept. of Agriculture, Univ. of Saskatchewan. Saskatoon, Sask., Univ. of Saskatchewan, College of Agriculture. June 1944.

Table 1.—Wheat Yield Averages of Low and High Yielding Farms According to Soil Group Within R.M. 310

Soil Group	Yield Level	1945	1946	1947	1948	1949
		—bushels per acre—				
V	low	14·0	10·5	10·0	14·0	14·3
	high	23·3	20·3	21·2	25·2	22·4
VI	low	8·0	10·0	7·8	6·5	13·2
	high	23·3	18·6	17·1	19·6	20·3
VII	low	14·7	14·2	9·0	12·6	14·4
	high	30·0	21·3	17·4	21·8	23·2
VIII	low	8·5	8·0	6·3	7·9	10·1
	high	28·0	23·0	18·2	19·6	22·0
IX	low	9·2	9·8	8·3	6·4	9·2
	high	21·8	18·8	16·8	22·0	22·7
X	low	13·0	9·6	8·9	5·6	10·8
	high	25·2	19·8	18·4	18·0	17·1

While both groups of farmers seemed to favour the three-year rotation in this area, more of the farmers obtaining high yields modified their rotational practices to suit conditions prevalent in the spring, instead of sticking to a rigid type of rotation irrespective of moisture conditions in the seeding period.

Most farmers carried out fall tillage previous to the summerfallow year. Very little difference in method or type of cultivation was noted in this case. However, the farmers with the high yields tended to use the cultivator and rod weeder more and the one-way disc less on summerfallow, than the farmers who got low yields.

With respect to method of seeding, a higher percentage of farmers who got high yields used the drill for seeding, and they had a tendency to seed more heavily and perhaps not so deeply. Again, more of the farmers who got high yields modified seeding practices to take account of unusual spring conditions than did their neighbours with low yields. All the farmers who got high yields and most of those who got low yields grew Thatcher wheat, but more of those who got high yields made use of registered or first, second, or third generation seed.

In regard to soil drifting, the information showed that the farmers who got high yields had the smaller problem, yet they were on the same type of soil as the farmers who got low yields. A larger proportion of the high yielding farms had no soil drifting, or the drifting was less severe. No great difference in either the extent or kinds of control measures was noted between the two types of farms. However, if the high yielding farms had less severe drifting, and the survey points in this direction, there must have been a reason for it. Perhaps it was, in part, the thoroughness of control and perhaps these farmers tended to put slightly more emphasis on choice of implement, strip farming, field layout and choice of crop. Over and above this they had heavier yields and so had more stubble to protect their land.

The most significant fact that emerged from this comparative study was that the farmers who got the high yields were much more aware of the value of maintaining the fertility and organic matter of their soils. This also may help to account for the small soil drifting problem on these farms. A larger proportion of the farmers on the high yielding farms made use of barnyard manure, green manure and legumes and grasses for the express purpose of maintaining fertility and organic matter. Moreover, nearly all the farmers who consistently got the high yields used commercial fertilizers, while only slightly more than one-third of the farmers who got low yields did so.

Taken as a whole, this study suggests that the broad patterns of farm management practised by farmers who got consistently high yields and by those who got consistently low yields were indeed similar but it also suggests that the farmers who paid attention to details of farm management were well rewarded.

A REPORT ON SETTLEMENT IN THE IRRIGATED ROLLING HILLS AREA OF SOUTHERN ALBERTA[1]

H. K. Scott

The progress made by the settlers of the Rolling Hills area in transforming an uninhabited dry land plain into an inhabited and productive farming region is a story of achievements. Three economic surveys made by the Economics Division in 1941, 1945 and 1949 reveal the degree of their success. In an appraisal of these achievements, however, consideration must be given to the circumstances which attended this transformation. This is very important if the experience of the settlers of this area is to serve as guidance in the settlement of other newly established irrigation tracts. It is the purpose of this article to describe the progress of the settlers in the Rolling Hills area and then to comment on the circumstances associated with their achievements.

"The Rolling Hills area lies in the southeastern corner of the Eastern Irrigation District and comprises about two townships of land. A low range of hills separates this area from the other irrigable parts of the Eastern Irrigation District. The land surface is quite level, the soil a fine sandy loam to a loam, and in general the whole block is very well suited physically to irrigation. To this level stretch of country, main irrigation canals had been extended in the early years of the development of the Eastern Irrigation District, but on account of the remoteness of the Rolling Hills area from railways, further development was retarded, until recent years.

"Under an arrangement effected by the Prairie Farm Rehabilitation Administration with the Eastern Irrigation District, development was resumed in the late thirties, and settlement by farmers, chiefly from southern Saskatchewan, took place. This was part of the resettlement program which had as its main objective the re-establishment of farmers who had been victims of a combination of drouth and poor land in parts of southern Saskatchewan and Alberta."[2]

Evidence of Progress.—The agreement between the Prairie Farm Rehabilitation Administration and the Eastern Irrigation District called for development of some 25,000 acres in the Rolling Hills area.

Growth of settlement is reflected in the increase in population and the number of farms. According to the Canada Census there were only 18 people living in the area in 1936. As a result of the settlement scheme the population was reported as 580 in 1941 and 656 in 1946. In June, 1941, when the first study was conducted by the Economics Division, there were 104 resident farmers in the area. Two years earlier there had been fewer than five, and a year later, in 1942, there were 140 resident farmers. There were 150 farm units at the time of the 1945 survey, and according to the records of the Eastern Irrigation District there were 148 in 1948.

The land easiest to irrigate was used first. As the former dry land farmers gained more experience in irrigation farming they increased their land holdings, bringing under water some of the rougher land which required extra levelling and floating. In 1941 the average farm comprised 177 acres and this was increased to 190 acres in 1944 and to 270 acres in 1948. The irrigated cropland per farm also showed a substantial increase. The average farm had 130 acres irrigated in 1941, 149 in 1944, and 190 acres in 1948.

The increased land holdings created an increase in the operating investment in real estate and required an additional investment in machinery. The substantial increase in farm capital is seen in Table 1. The average investment in the farm has increased from $1,819 in 1941 to $16,927 in 1949. All capital items increased in value. In the first study the farmers owned no land as the agreement under which they settled provided that they rent for the first two years. Now, most of the farmers have purchased and almost completed paying for their land. A comparison of the average farm capital and of the liabilities indicates that the net worth of the farmers has increased considerably. In 1949 the average liabilities were $1,109 as compared with $753 in 1941.

---

[1] For other articles on irrigation in Alberta which have appeared in *The Economic Annalist*, see: "Recent Trends in Farming in the Irrigated Areas of Alberta" by H. K. Scott, October 1950; "Historical Development of the Eastern Irrigation District" by L. K. Dunsmore, June 1950; "Postwar Trends in Specialty Crops for the Irrigated Areas of Alberta" by A. J. Pyrch, and "Production and Marketing of Potatoes from the Irrigated Areas of Alberta" by C. M. Kline, August 1949.

[2] Excerpt from *Farming in the Irrigation District of Alberta* by C. C. Spence, B. H. Kristjanson, and J. L. Anderson. Technical Bulletin No. 161, Ottawa, Department of Agriculture, 1947, p. 50

The adaptability of the settlers is exemplified by the manner in which they have changed their dry land cropping practices to those of the irrigation farmer. The wheat-summerfallow sequence of land use which had been the practice of the settlers from southwestern Saskatchewan was changed to the diversified crops and livestock combination of the irrigation areas of Alberta. The change in land use was immediate, although in the first two or three years the settlers grew only a small acreage of the crops especially adapted to irrigation. Due to their limited working capital the settlers' first consideration was to obtain a cash crop, and so the greater portion of their prepared land was seeded to flax and wheat. In 1940 the average farm had 63 acres of flax, 39 acres of wheat, 16 acres of oats, four acres of barley and two acres of other crops.

By 1944 a larger variety of crops were grown and less emphasis was placed on the cash crops. Compared to flax and wheat the acreage of coarse grains had increased. Farms averaged only 10 acres of flax and 33 acres of wheat, but 40 acres of oats, 18 acres of barley, and 19 acres of alfalfa in addition to four acres of field peas and 11 acres of other crops. The comparatively high acreage of coarse grains was due in part to the relatively high prices of hogs at the time. The 1943 to 1944 period was one of the most profitable in hog production.

Table 1.—Operators' Average Investment in the Main Items of Farm Capital and Farm Net Worth,[a] Rolling Hills Area, 1941, 1945, and 1949

—	1941	1945	1949
		—dollars—	
Real Estate—Buildings	367	1,077	4,343
Real Estate—Land	....	2,004	4,807
Livestock	560	1,330	2,370
Machinery	710	1,961	5,125
Seed and Miscellaneous	182	454	282
Total (excluding land)	1,819	4,822	12,120
Total Farm Capital	**1,819**	**6,826**	**16,927**
Liabilities (Farm)	753	1,200	1,109
Farm Net Worth	**1,066**	**5,626**	**15,818**

[a] Other capital investments such as savings, life insurance, bonds, etc., even though they are considered to be of little significance, would have to be added to the farm capital to obtain the Operator's Net Worth.

With the rise in wheat and flax prices relative to hogs in 1948 as compared to the earlier period, there was a reduction in the number of hogs on these farms and a smaller acreage of coarse grains. There was, nevertheless, a variety of crops grown with a noticeable increase in the alfalfa and field pea acreage. The average farm at this time had 54 acres of flax, 40 acres of wheat, 20 acres of barley, 29 acres of alfalfa, and 12 acres of field peas.

At the start the settlers had only the few head of livestock they had brought with them. On the average farm there were about five cows with a complementary number of young stock per farm, as well as a sow which farrowed once or twice during the year. The study conducted in 1949 showed a decrease in hogs, as already indicated, but a marked increase in the number of cattle to an average of seven or eight cows and four or five other cattle per farm. The horse population declined to about four horses per farm on the average in 1949. An increase in the use of tractors as the source of farm power has accompanied this downward trend in horse numbers.

The earning power of the farm increased with its development. The return to the average farm operator for his labour, management, and capital averaged $1,891 in 1949 compared to $1,413 in 1945 and $192 in 1941.

Circumstances of Settlement.—The terms on which land was secured by the settlers from the Eastern Irrigation District are as follows. A two-year lease option was given the farmer when he selected his land. A nominal rental of $10 per year was charged for two years. In addition for the first year the farmer paid one-half the water rate based on his irrigable acreage. After the first year he was required to pay the full rate on the irrigated acreage.

When the settler purchased the farm unit the contract terms required one-fifth of the purchase price to be paid in cash and the balance to be paid over a twelve-year period. The yearly payments were set at five per cent of the principal each year for the first eight years and then ten per cent for the succeeding four years. Interest at the rate of five per cent was charged only on overdue payments.

While the price of land was set at $10 per irrigable acre, the purchase contract of the settlers with the Eastern Irrigation District called for a total payment on principal of eight dollars per irrigable acre. A credit of two dollars per acre was allowed by the District in lieu of repaying an advance (amounting to $50,000 on the whole project) made by the Prairie Farm Rehabilitation Administration for breaking 100 acres per quarter, which was the unit size of each holding. In addition the settler contracted to pay one dollar per acre for the non-irrigable land on the quarter-section. About one-half the settlers had contracted to purchase their farms at the end of the second year and most of the others took up a purchase contract within the next year or so.

The terms under which the area was settled will appear today to have been very advantageous for the settlers. It must be remembered, however, that the arrangements and prices were set in the late thirties when depressed economic conditions were still being experienced. It is certain that the settlers would not have been able to meet the contracted payments as readily during the first years if the prices of their produce had not increased.

In any appraisal of the Rolling Hills settlement one notes that the settlers moved from a state of abject poverty to one of comparative plenty. The success of the scheme was astounding and can in part be attributed to the perseverance and determination of the settlers. However, the timing of the enterprise also played a large part in the rapid development of the settlement and in the accumulation of assets by its settlers. This was due to the continued rise in prices of farm products resulting in a comparatively higher than average net farm income, since the costs of the commodities and services used by the farmers responded more slowly to the stimulus of increased demand.

Another factor that aided the scheme in no small way was the fact that the settlement was part of a well organized existing irrigation district. Experienced administrators guided the settlement through many situations that would have been difficult for a new district. The fact that the settlement was part of an established district had an additional advantage in that it is quite likely the settlers paid a lower water charge than they would have if they had been members of an entirely new district.

It was the policy of the Prairie Farm Rehabilitation Administration and the Eastern Irrigation District administration to place a farmer experienced in irrigation on one quarter of each section. The settlers who came from the dry land areas consider this policy of considerable value as it enabled them to have an immediate neighbour experienced in the use of water and from whom they could learn many recommended practices.

Appraisal.—The Rolling Hills settlement scheme has passed from the pioneering stage to one of growth and development. Two types of agriculture are evolving which are comparable to the types found in the Eastern Irrigation District as a whole. These are represented by the crop-type farms and the livestock-type farms. The crop type may be characterized as obtaining most of its income from the sale of field crops and selling only a few head of livestock and a relatively small quantity of livestock products. The livestock enterprise is secondary and supplementary to crop production. The livestock farm, on the other hand, receives the larger part of its income from the sale of livestock and livestock products. Crops having a high acre unit value, usually referred to as speciality crops and associated with high earnings in irrigation farming, are, in the Eastern Irrigation District, generally limited to the production of pea seed and the small seeds such as alfalfa and alsike clover. The acreage in canning crops has been of little importance to date.

The problems of the Rolling Hills settlers today are the same as those which confront the Eastern Irrigation District farmers in general. One of these is the need for wider markets which will permit them to expand their production of speciality crops and obtain increased revenue. Three other nearby districts, namely the Taber, the St. Mary-Milk River, and the Lethbridge Northern, are in a more favourable situation with respect to the growing of specality crops. There is no sugar refinery accessible to the Eastern Irrigation District and only limited facilities for processing canning crops.

The relatively high incomes enjoyed by the Rolling Hills farmers in late years cannot be expected in a period of more normal price-cost relationships if the settlers continue with the types of farming which have characterized the settlement to date. The possibility of growing more specialty crops without processing facilities is definitely limited. Nevertheless, with proper management, the settlers can continue to enjoy an income and level of living far above those experienced on the dry land from whence they came.

Further evidence of the success of the Rolling Hills settlement scheme may be had by a journey through the area. One can see new farmsteads, good school houses, improved roads, an active business center, and trees planted by the settlers. Of great significance is the high morale and optimism of the settlers.

IMPROVING EFFICIENCY THROUGH QUEBEC BETTER-FARMING COMPETITIONS

A. GOSSELIN and R. CHOQUETTE

Two previous articles[1] presented the results of a study of the organization and an appraisal of the effectiveness of *Quebec Better-Farming Competitions* as a means of increasing farmers' efficiency. That study covered changes in financial returns and in crop and livestock output on farms participating in these competitions within the five-year period during which they were under the supervision of the Quebec Department of Agriculture.

In this article an appraisal is made of the changes in physical output which took place on these farms both during the five-year period in which the competitions were carried on and in the period following their completion.

This information is based on 171 farm records obtained in three areas of Quebec. During the summer of 1948, 40 records were obtained in the area lying south-west of Quebec city including the counties of Dorchester, Lotbinière, Nicolet and Mégantic and 61 records were taken in nine counties south of Montreal. In 1949, 70 records were collected in the counties of Two-Mountains, Montcalm, Joliette and Berthier located in the area between Montreal and Three Rivers. Between 1934 and 1945 a total of 582 farms had participated in *Better-farming Competitions* in these three areas.

The data used for the first and fifth years of the competitions represent the average for all competitors regardless of the time these competitions were held. The averages thus obtained cover several years. The data used in the follow-up survey of the areas south of Quebec and south of Montreal are for the crop-year 1947-1948 with the exception of the data on grain production. The grain crop of 1947-48 having been a general failure in the Province of Quebec it was deemed advisable to use the 1946-47 grain crop figures instead, although the grain crop of that year was also a below-average crop in the area south of Montreal. The data collected in the area between Montreal and Three Rivers are for the crop year 1948-1949.

Land Use.—On most farms studied in the three areas there were only minor changes in the use of land and the kind of crops grown for the period under consideration. When a competition is organized, each farm selected is surveyed and divided into fields on which a crop rotation suitable to the type of farming, kind of soil, machinery and the farm labour available is agreed upon. Thus the adjustments which may be made in the following years are unlikely to be very important (Table 1).

---

[1] "Better Farm Management Practices Through Demonstration". *The Economic Annalist.* February 1949. p. 12. "Quebec Better-Farming Competitions". *The Economic Annalist.* June 1949. p. 68.

Table 1.—Utilization of Farm Land, 171 Farms, Quebec Better-Farming Competitions

Acreage	Competitions		Follow-up Survey
	1st Year	5th Year	
	acres	acres	acres
Crop land	57·4	61·8	62·7
Tillable pasture	29·8	26·0	25·6
Total tillable land	87·2	87·8	88·3
Non-tillable pasture	5·4	5·3	5·5
Wood land	23·0	23·2	23·5
Waste, yards, etc	5·8	6·2	6·4
Total farm area	121·4	122·5	123·7

A few farmers purchased or rented additional land. This contributed to the slight increase in the average size of the 171 farms studied which was 121.4 acres the first year, 122.5 acres the fifth year and 123.7 acres at the time of the study.

Acreage in Crops.—The average crop acreage on these farms increased from 57.4 acres during the first year of competitions to 61.8 acres the fifth year and to 62.7 acres in the year of the study. The permanent pasture improvement program followed in these competitions makes possible the use of more tillable land for crop production. The acreage in grain-crop per farm was 1.5 acres greater the fifth year than the first year and remained about the same at the time of the follow-up survey. The shift from straight oats or barley production to mixed grain is also a part of the program recommended in these competitions. It has been found that higher yields of mixed grain are produced on most types of soils. The increase in crop acreage on these farms is mainly due to the increase in forage crops, particularly hay.

Table 2.—Acreage in Crops, Yields per Acre and Production per Farm, 171 Farms, Quebec Better-Farming Competitions

Crop	Competitions						Follow-up Survey		
	1st Year			5th Year					
	Acres per Farm	Yields per Acre	Production per Farm	Acres per Farm	Yields per Acre	Production per Farm	Acres per Farm	Yields per Acre	Production per Farm
		bu.	bu.		bu.	bu.		bu.	bu.
Oats	12·5	29·3	366·2	12·5	32·1	401·2	12·1	29·9	361·8
Barley	2·3	23·8	54·7	1·8	28·4	51·1	1·7	26·5	45·0
Mixed grains	5·9	28·3	167·0	8·4	33·0	277·2	9·1	30·8	280·3
Other grains	2·1	....	36·0	1·6	....	23·0	1·5	....	15·0
Total grains	22·8	....	623·9	24·3	....	752·5	24·4	....	702·1
		tons	**tons**		**tons**	**tons**		**tons**	**tons**
Hay	30·2	1·2	36·2	31·7	1·5	47·6	32·9	1·6	52·6
Corn fodder and silage	1·4	10·0	14·0	2·0	10·8	21·6	2·2	9·9	21·8
Turnips	0·4	17·6	7·0	0·6	18·8	11·3	0·5	15·9	8·0
Oats-peas-vetch	0·3	2·4	0·7	0·5	2·1	1·0	0·8	2·0	1·6
Total forage crops	32·3	....	57·9	34·8	....	81·5	36·4	....	84·0
Total field crops	55·1	....	....	59·1	....	....	60·8	....	....
Potatoes	1·4	....	....	1·5	....	....	1·3	....	....
Other crops	0·9	....	....	1·2	....	....	0·6	....	....
Total acreage in crops	57·4	....	....	61·8	....	....	62·7	....	....

Crop Yields.—An average increase of 2.8 bushels of oats, 4.6 bushels of barley and 4.7 bushels of mixed grain per acre was recorded on these farms from the first to the fifth year. Due to a below-average crop in the area south of Montreal in 1946, a decrease in the average yields of grain crops was recorded at the time of the survey.

Between the first and fifth years of the competitions the total production of grain increased by 20.5 per cent.

The yield of hay (legumes and grasses) increased by 33 per cent between the first year of the competitions and the follow-up survey. As a result of both a greater acreage and higher yields, the average hay production on these farms increased from 36.2 tons to 52.6 tons, an increase of 45.3 per cent.

The production of other forage crops—corn, roots, oats-peas-vetch—increased by 45 per cent. While the acreage in corn and roots is not large on most farms it provides an important source of roughage on some farms, particularly in the area south of Montreal.

Changes in Output of Digestible Nutrients.—To assess and measure the changes in crop output which occurred on these farms, the total crop production was reduced to a basis of total digestible nutrients and expressed in pounds or tons per farm (Table 3).

Table 3.—Grain and Forage Crop Production per Farm in Pounds of Total Digestible Nutrients, 171 Farms, Quebec Better-Farming Competitions

Crop	Competitions		Follow-up Survey	Increase or Decrease	
	1st Year	5th Year		5th Year over 1st Year	Survey over 5th Year
Coarse grains	17,569	21,264	20,000	+ 3,695	− 1,264
Hay	33,341	43,700	48,429	+10,359	+ 4,729
Other forage crops	6,122	9,433	9,635	+ 3,311	+ 202
Total per farm	57,032	74,397	78,064	+17,365	+ 3,667
Total in tons	28·51	37·20	39·03	+ 8·69	+ 1·83
Total digestible nutrients per acre (lb.)	1,035	1,259	1,284	+ 224	+ 25

The output of digestible nutrients per farm was 30.5 per cent greater the fifth year than the first year and 6 per cent greater at the time of the study than the fifth year.

This increase in the total production of digestible nutrients resulted from both a larger acreage and higher yields of various crops. To measure the changes which occurred in the total production of digestible nutrients on these farms, it would be necessary to include in these figures the digestible nutrients production in the form of pasture, but these data are not available. However, the changes in the carrying capacity or in the number of animal units per farm and the number of tillable acres per animal unit may serve as a measure of progress in crop and pasture output since the number of animal units kept on a mixed farm is closely related to the pasture carrying capacity. This is shown in Table 4.

On mixed farms such as those included in these competitions the livestock output, the carrying capacity and the milk production are, perhaps, better measures of farm efficiency and progress than crop output. For livestock and milk production are not affected by the climatic conditions to the same extent as crops are from year to year or for a given period of years. Of course the livestock output, the carrying capacity and the milk production may also be greatly influenced by the amount of feed bought off the farm.

Livestock Output.—The number of animal units per farm (Table 4) increased from 19.3 the first year to 23.5 the fifth year and to 23.7 the year of the study. The number of cattle animal units on these farms was mostly responsible for the increased livestock output during various periods of time under consideration. Hog and

Table 4.—Animal Units per Farm and per 100 Acres Tillable Land, 171 Farms, Quebec Better-Farming Competitions

—	Unit	Competitions		Follow-up Survey	Increase or Decrease	
		1st Year	5th Year		5th Year over 1st Year	Survey over 5th Year
Horses (animal units)	No.	3·0	3·3	2·8	+0·3	−0·5
Cattle (animal units)	No.	13·8	16·2	17·3	+2·4	+1·1
Sheep (animal units)	No.	0·2	0·2	0·1	....	−0·1
Pigs (animal units)	No.	1·4	2·3	1·8	+0·9	−0·5
Poultry (animal units)	No.	0·9	1·5	1·7	+0·6	+0·2
Total animal units per farm	No.	19·3	23·5	23·7	+4·2	+0·2
Tillable land per farm	Ac.	87·2	87·8	88·3	+0·6	+0·5
Tillable pasture	Ac.	29·8	26·0	25·6	−3·8	−0·4
Tillable acres per animal unit	No.	4·5	3·7	3·7	−0·8	....
Animal units per 100 acres of tillable land	No.	22·1	26·9	27·0	+4·8	+0·1

poultry production fluctuate from year to year to a larger degree than milk production according to variations in supply and prices of feed, and to the relationship of pork prices and of feed prices. Pigs and poultry may be raised and fattened almost entirely on purchased feed, while cows are mostly fed on home-grown feed—roughage and pasture. Also it is not as easy to get into or out of the dairy business as it is to get into or out of the pig or poultry business.

The carrying capacity, measured by the number of tillable acres required per animal unit, increased from the first year to the fifth year and remained the same at the time of the study—4.5 tillable acres were required per animal unit the first year as compared with 3.7 acres the year of the study.

Milk Production.—The 24 per cent increase in milk production per farm between the year of the competitions and the follow-up survey was due to an increase of 1.8 cows per farm and an increase of 409 pounds of milk per cow (Table 5).

In conclusion it may be said that this study of farm efficiency and progress of a certain number of farmers who participated in better-farming competitions indicates that, on the average, material progress was accomplished when measured in terms of crop production, livestock output and land carrying capacity. The progress made

Table 5.—Milk Production per Cow, per Farm and per 100 Acres Tillable Land, 171 Farms, Quebec Better-Farming Competitions

—	Unit	Competitions		Follow-up Survey	Increase or Decrease	
		1st Year	5th Year		5th Year over 1st Year	Survey over 5th Year
Cows per farm	No.	11·7	12·4	13·5	+ 0·7	+ 1·1
Milk per cow	Lb.	5,594	5,954	6,003	+ 360	+ 49
Milk per farm	Lb.	65,449	73,827	81,035	+8,378	+7,208
Cows per 100 acres of tillable land	No.	13·4	14·1	15·3	+ 0·7	+ 1·2
Milk per 100 acres of tillable land	Lb.	75,056	84,085	91,772	+9,029	+7,687

from the first year to the fifth year of competitions appears to be more striking than that made thereafter. This can be explained by the fact that a farmer starting at a low level may raise substantially the productivity of his land, increase his livestock output and milk production through better planning, better soil cultivation practices and better management—all factors over which he has a certain control. When he has reached a certain degree of efficiency the factors over which the farmer has less control or no control at all—climatic and economic factors—make his further progress more difficult. Again, among these farmers there were some who were already following the system of farming recommended in these competitions, and they made only minor adjustments which could not result in very marked improvements.

In any case, any farmer who participated in these competitions has a fair idea of the changes which occurred on his own farm. He is, therefore, in a better position to make the necessary adjustments, with a view to correcting the weaknesses of his farming system.

REVIEW OF LITERATURE

World Economic Report 1949-50. March 1951. pp. xii+247.

Review of Economic Conditions in the Middle East. Supplement to **World Economic Report 1949-50.** July 1951. pp. viii+84.

Review of Economic Conditions in Africa. Supplement to **World Economic Report 1949-50.** 1951. pp. VIII+119.

Economic Survey of Europe in 1950. Prepared by the Research and Planning Division, Economic Commission for Europe. 1951. pp. xii+263. All published by the United Nations Dept. of Economic Affairs, Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto).

Supplement (1951) to Catalogue of Economic and Social Projects 1950. United Nations, Lake Success, N.Y. (In Canada: The Ryerson Press, Toronto). 1951. pp. xiv+310.

World Economic Report 1949-50 is the first comprehensive review of world economic conditions to be published by the United Nations since June 1949, when *World Economic Report 1948* appeared. The report is devoted to an analysis of major developments in domestic economic conditions and international economic relations during 1949 and the first half of 1950, with some preliminary comments on tendencies since mid-1950.

It is divided into three parts comprising ten chapters. The first part deals with major domestic economic developments in the economically developed private enterprise economies, the centrally planned economies of eastern Europe, selected countries in Latin America and the Far East, and in Germany, Japan and China. The second part is devoted to a discussion of changes in the volume, value and direction of foreign trade and to recent trends in international financial settlements. The third part contains an analysis of the long-term and short-term aspects of the dollar shortage in international trade and a study of the relationship between the currency devaluations of 1949 and the subsequent declines in dollar deficits. There are a total of 123 tables included in the text of the report, as well as 14 additional tables in the Statistical Appendix. It also contains a "Chronology of Major Economic Events" from January 1949 to December 1950, and a complete index.

Review of Economic Conditions in the Middle East discusses the basic physical, economic and social characteristics of the Middle East and surveys the main economic trends of the area. A full section of the Review is devoted to a study of the petroleum industry of the Middle East and its importance in both the world economy and in that of the producing countries. A final section of the Review discusses certain aspects of the economic development of the region.

The *Review* indicates that the execution of plans for economic development such as those adopted by a number of the countries is indispensable for the raising and even for the maintenance of the standard of living of the Middle East. Population is growing rapidly, and living conditions can be improved only if national income is greatly expanded. Throughout most of the region such an expansion can be brought about mainly through agricultural development, including both increased productivity and improvement in the rural economy. The evidence suggests that there are many possibilities for such agricultural development, and the governments of the region are currently engaged in a number of specific projects which should increase production. The expansion of agriculture in addition to directly raising living standards, could help to enlarge the internal market for industry. The development of industry would, by meeting some of the needs of agriculture, lessen the strain on the balance of payments. Such developments might in turn enlarge both private and governmental resources and so permit further efforts. If it were also possible to attract foreign capital for the promotion of such development projects, the governments could further increase these efforts.

The Review of Economic Conditions in Africa describes the basic characteristics of the African economy and recent trends in agricultural production; mining and the mineral and metal industries; fuel and power, iron and steel and secondary industries; transportation; labour; foreign trade. It also includes a note on the demographic situation of Africa. A final chapter discusses recent government-sponsored development plans which have been projected and drawn up for almost every territory in Africa. The text of the report is accompanied by 70 tables and one map.

After noting that levels of economic activity in Africa have increased in recent years largely as a consequence of world demands for primary products, the *Review* concludes that to raise considerably per capita levels of production and consumption in Africa calls for heavy and sustained capital investments and extensive reorganization of the traditional economy.

The Economic Survey of Europe in 1950 is the fourth annual Survey of the European economy to be undertaken by the Secretariat of the Economic Commission for Europe. It follows the previous *Surveys* published in 1948, 1949 and 1950.

The *Survey* contains a discussion of world economic developments as they have and are affecting Europe. It shows the dominant influence of the United States on world production and the importance to Europe of developments in the primary producing countries. There is an extensive discussion of inflationary prospects in the United States and of their probable consequences for Europe.

Supplement (1951) to Catalogue of Economic and Social Projects 1950 brings up to date the information in the Catalogue of Economic and Social Projects 1950. It included the work going on in 1949 and to be carried over to or approved for initiation in 1950. The 1951 Supplement covers the work in progress during 1950 and carried over or approved for initiation in 1951.

Waite, Warren C. and Trelogan, Harry C. *Agricultural Market Prices.* New York, John Wiley and Sons Inc. 1951. pp. IX+440.

This text, another contribution to the growing value of literature on agricultural prices and price policy, is a revision of the text book published at an earlier date.

According to the authors, the presentation of this book "has been prepared with the thought that it will be used by students in courses of agricultural prices and marketing who have had the benefit of at least the basic courses in economic theory and practice". For this reason they "have tended to pass over elementary explanations except where they are considered necessary to avoid confusion in the use of terms or to develop fully the concepts upon which particular analyses are based". The scope of the book is best indicated by the chapter headings: *The Nature and Function of Prices; The General Price Level; Influence of Demand on Prices; The Supply of Agricultural Products; Price Formation; Organization of the Market and Price Determination; Prices in Different Parts of a Market and in Related Markets; Prices in Stages of Marketing Process; Price Changes Over Time; Seasonal Movement of Agricultural Prices; Futures Trading and Prices; Prices by Classes, Varieties and Grades; Prices of the Factors of Production; An Experience with Price Control; Price Policy Applied to Agriculture;* and an appendix dealing with *Methods of Price Analysis.*

Mudgett, Bruce D. *Index Numbers.* New York, John Wiley and Sons Inc. 1951. pp. X+135.

The business man, the farmer, the consumer, the wage-earner and the economist are all concerned with index numbers. It is an important statistical tool used by the policy maker as well as by the research worker. The index number is not only often misunderstood but often misused. Therefore a book on the subject is useful.

The book is divided into two parts: Part I, *The Measurement of Prices and Quantity Change* and Part II, *Current Construction Methods and Their Shortcomings.*

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS
G. P. BOUCHER, Editor

DECEMBER 1951 Vol. XXI, No. 6

CONTENTS

Page
The Economic Situation ... 123

Egg and Poultry Production in British Columbia, 1948-49, Part I ... *R. H. Campbell* 127

The Cattle Enterprise in Relation to Farm Organization in Alberta ... *T. Askin* 133

Technical Assistance to Underdeveloped Countries, Part II ... *J. B. Smith and J. F. Booth* 136

Size and Tenure of Farms in Three Prairie Areas of Saskatchewan ... *R. A. Stutt* 139

Literature ... 144

New Publications by the Economics Division ... 144

MARKETING SERVICE, ECONOMICS DIVISION
J. F. BOOTH, Chief

**Published by Authority of the Right Honourable James G. Gardiner,
Minister of Agriculture**

91562—1

ANNUAL AND MONTHLY INDEX NUMBERS

Wholesale Prices, Farm Prices and Living Cost Indexes

Year	Wholesale Prices 1935–39 = 100				Farm Prices of Agricultural Products 1935–39 = 100 (e)	Commodities and Services used by Farmers 1935–39 = 100		Cost of Living 1935–39 = 100	
	(a) General Wholesale Index	(b) Farm Products	(c) Field Products	(d) Animal Products		(f) Equipment & Materials	(g) Eleven Factor Index	(h) Farm Living Costs	(i) Urban Living Costs
1913	83·4					85·4		80·1	79·1
1914	85·4					90·2	85·3	82·3	79·7
1915	91·8					96·9	91·6	86·5	80·7
1916	109·8					101·7	100·5	93·7	87·0
1917	148·9					140·7	140·5	111·5	102·4
1918	166·0					164·1	160·2	131·1	115·6
1919	174·7					169·1	167·9	143·0	126·5
1920	203·2					190·1	186·5	171·3	145·4
1921	143·4					147·4	152·5	139·9	129·9
1922	126·8					124·6	134·1	127·9	120·4
1923	127·7					118·3	130·6	128·3	120·7
1924	129·5					122·3	131·9	125·5	118·8
1925	133·8					123·2	131·8	123·9	119·8
1926	130·3	144·4	158·5	130·2		119·9	130·6	121·1	121·8
1927	127·3	138·6	149·4	127·8		119·9	131·2	119·8	119·9
1928	125·6	136·3	134·3	138·2		118·3	129·3	118·5	120·5
1929	124·6	140·8	137·2	144·4		117·6	127·9	117·3	121·7
1930	112·9	119·5	105·8	133·3		105·6	117·0	113·7	120·8
1931	94·0	78·9	65·0	92·7		92·2	100·9	103·9	109·1
1932	86·9	65·5	60·4	70·5		89·3	93·3	97·8	99·0
1933	87·4	69·3	69·3	69·2		88·8	89·8	95·8	94·4
1934	93·4	83·5	80·5	86·5		96·8	95·5	97·9	95·6
1935	94·4	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	96·7	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	107·8	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·0	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	99·2	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	108·0	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	116·4	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	123·0	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	127·9	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	130·6	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	132·1	166·4	162·5	170·2	185·7	125·9	152·1	123·2	119·5
1946	138·9	179·5	177·9	181·2	204·1	128·0	157·0	127·1	123·6
1947	163·3	192·2	184·1	200·2	215·8	139·5	170·4	138·3	135·5
1948	193·4	232·1	200·6	263·7	255·8	173·1	197·4	162·8	155·0
1949	198·3	228·7	191·9	265·4	255·4	180·3	204·1	173·2	160·8
1950	211·2	233·0	184·6	281·4	260·4	189·9	210·4	177·6	166·5
1950									
Oct	220·0	228·5	170·2	286·8	261·3				170·7
Nov	222·4	230·4	170·3	290·5	264·0				170·7
Dec	225·2	234·5	170·6	298·4	268·7				171·1
1951									
Jan	232·3	242·2	173·5	310·9	273·8	201·0	216·9	184·1	172·5
Feb	238·5	253·7	177·9	329·6	284·6				175·2
Mar	241·8	264·2	181·2	347·2	293·6				179·7
April	242·2	256·6	181·6	331·6	291·6	209·6	232·4	197·1	181·8
May	241·9	256·5	177·0	336·1	292·4				182·0
June	242·7	263·8	174·4	353·1	300·2				184·1
July	244·2	268·3	177·8	358·9	307·2				187·6
Aug	241·5	256·4	164·6	348·3	284·8	207·7	236·4	214·7	188·9
Sept	240·1	253·9	168·5	339·2	283·9				189·8
Oct	239·6	252·6	175·0	330·3	278·6				190·4
Nov									191·2

(a) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo.) Ottawa, Monthly.
(b) Ibid (a). Wholesale prices of products of Canadian farms.
(c) Ibid (b). Wholesale prices of grains, hay, tobacco and potatoes.
(d) Ibid (b). Wholesale prices of animals and animal products.
(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo.) Ottawa, Monthly.
(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo.) Ottawa, Jan., Apr., and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.
(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.
(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.
(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

THE ECONOMIC SITUATION, 1951

Year-End Review.[1]—The Gross National Product of Canada in 1951 will be close to $21 billion, an increase of at least 16 per cent over that of 1950. A strong demand prevailed in most sectors of the Canadian economy throughout the year. This demand was the result of international developments associated with the Korean hostilities and of the expansion in defence activities in the western countries. This increased activity created a pressure on our productive resources and was accompanied by rising prices. Both wholesale and retail prices reached an all-time high during the first six months of the year. By mid-year, however, most wholesale prices showed some weakening. The general price level rose over 10 per cent since 1950 but the total national physical output is estimated at only six per cent above the output for 1950.

The aggregate volume of industrial production rose by about 12 per cent but there was some shift among the industrial sectors. Greater emphasis was placed on basic and heavy durable goods industries, because of the requirements of the Canadian defence program and the increase in demand from military and civilian sectors in other countries. But this defence atmosphere also contributed to some stimulation in the soft goods and service industries.

The actual cash made available for defence in Canada in the present fiscal year amounts to about $1·9 billion. However, there has been some lag in the spending of these funds and actual outlays are not likely to exceed five or six per cent of the Gross National Product. Defence expenditures in 1950 amounted to less than three per cent of the G.N.P. The increased tempo of defence activities absorbs an increasing amount of available resources but has not affected the availability of civilian supplies. The impact of these activities falls primarily on construction and heavy industries.

All income components of the G.N.P. reflect the high level of economic activity prevailing during 1951. For the first six months of the year, labour income was about 17 per cent higher than for the corresponding six months of 1950. This higher income resulted from a combination of higher wage rates and higher employment. Along with higher wage rates, an increase in average hours of work contributed to a higher income. For the year as a whole the number of employed persons will have increased by about three or four per cent, and total salaries and wages will be about 15 per cent higher than in 1950.

Larger crops, high prices, and large total participation payments for wheat and coarse grains will bring agriculture's contribution to the G.N.P. to a level almost 30 per cent higher than in 1950. This is the major change in the distribution of the national income, occurring in 1951. Farm income will be the highest on record.

There are variations in income increases for other types of business. Interest and dividends appear to be a little higher. Rents are still rising and corporate profits are reflecting a steady volume of business and price increases.

Higher incomes mean a substantial increase in the tax base for the higher 1951 tax rates. Nevertheless, personal disposable income will probably be 14 or 15 per cent higher than in 1950, in spite of the proportionately greater share of the private income being absorbed by taxes.

Investment expenditures also reflect the changes in economic patterns brought about by the preparedness program. Anticipated capital expenditures exceed the 1950 figure by 20 per cent. At least half of this increase is attributable to higher prices. The increases are in those sectors which are more vital to national defence. The volume of expenditures on residential housing is decreasing considerably. On the other hand, the manufacturing sector is witnessing the most important increases in investment. Government outlays will have increased by 29 per cent since 1950, largely as a result of the larger volume of defence construction.

Canada's total foreign trade in the first nine months of 1951 totalled $5,960,200,000 or $1,452,500,000 more than in the corresponding period of 1950. Both imports and exports reached record levels. Imports climbed to $3,142,000,000 from $2,259,500,000 in the nine-month period last year, an increase of $882,500,000 while exports climbed $570,000,000 to $2,818,200,000 from $2,248,200,000. This lends emphasis to the official estimates placing Canada's foreign trade in 1951 at about $8,500,000,000, the highest value in history.

---

[1] Based on a review of the domestic situation presented in the October, 1951 issue of *The Current Review of Agricultural Conditions in Canada.*

The deficit in the commodity account stands at $323,800,000 but it is expected that it will be narrowed to about $250,000,000 by the end of the year. This deficit reflects Canada's heavier buying in the United States and the pronounced increase in Canada's imports in 1951 is the result of a heavy program of capital expansion, increased defence requirements, and high income levels.

During the nine-month period total trade with Britain reached $783,200,000, the highest total for any similar period since the end of the last World War and $147,000,000 more than in the corresponding period of 1950. Canada sold Britain $447,700,000 worth of goods and her imports from Britain were valued at $335,500,000 leaving a surplus of $112,200,000. This is about double the $55,500,000 realized in the first nine months of 1950.

This favourable balance was not sufficient to counterbalance the deficit in trade with the United States. This deficit totalled $429,800,000 which is about six times higher than for the corresponding period of 1950. Total trade with that country reached $3,864,100,000. Exports were valued at $1,717,100,000 and imports at $2,146,900,000.

Funds available for consumer spending are at least 14 or 15 per cent higher than in 1950 and personal expenditures on consumer goods and services will be about 12 per cent higher than in 1950. The first quarter of the year was marked by a wave of buying in anticipation of shortages and higher prices. By mid-year this scare-buying had subsided and the decrease in consumer purchases was accentuated by the government policy on the restriction of non-essential buying. Retail prices rose at a faster rate than incomes and this also tended to limit buying. For the year as a whole consumer prices will be about 10 per cent higher than during 1950.

The number of employed persons will be about three or four per cent greater than in 1950. For the year, unemployment will amount to about two per cent of the total labour force. Important shifts have taken place in the distribution of workers among industries. The most important of these was the shift between the agricultural and non-agricultural segments of the labour force. Between August 1950 and August 1951 the non-agricultural segment increased by 160,000 to 4,331,000 while the agricultural segment fell by 63,000 to 1,090,000.

Farm Income.—Cash and net farm income in 1951, including Canadian Wheat Board payments on crops from previous years, will likely reach an all-time high. However, a large part of the western grain crop remains to be harvested or threshed. Most of the crop now lying under snow will be harvested next spring but its quality will be reduced. Delivery quotas have a restraining effect on grain marketings and the huge crop will provide a substantial addition to the farm-held inventories at the end of the year. During the six-month period ending June 30, 1950, the Canadian Wheat Board paid out a total of $182·6 million. Payments were made in connection with the 1945-1949 wheat crops inclusive and adjustment payments were made in accordance with the upward adjustment in the initial prices of wheat, oats, and barley made effective February 1, 1951 and retroactive to August 1, 1950. Participation payments on grains marketed during the 1950-51 crop year total $105 million.

Cash income from livestock will be considerably higher than in 1950. Declines in marketings will be offset by the high prices. Higher prices for cattle and calves will easily overcome the anticipated decline in marketings while smaller marketings of sheep and lambs will bring lower returns. Income from the sale of hogs will be well above the 1950 level because of higher average prices and anticipated slightly higher marketings. Dairy products will also account for a larger income than in 1950, because of higher prices. Prices for eggs have been well above the 1950 level and hatchings up to the end of June were about 25 per cent higher than a year earlier.

Estimates indicate that farm operating expenses will be higher in 1951 but their advances will not have been as rapid as the rise in farm income. Feed outlays are not expected to differ greatly from those of 1950. Price changes were not significant and the increase in purchases was limited by the heavy feed grain crops.

Stocks of farm-held grains at the end of the year will be substantially above those of 1950. Livestock numbers are also expected to be higher because of increasing farrowings and the retention of other livestock for further finishing or breeding purposes.

Preliminary estimates indicate that total agricultural production in Canada will come close to the record output of 1942 and will likely exceed the 1950 figure by more than 15 per cent. The gain in production is largely attributable to the large grain crops in Western Canada.

Farm Prices.—During the first nine months of 1951 the index of farm prices of agricultural products climbed to higher levels than during the corresponding period of 1950. Higher prices for livestock, dairy products, poultry and eggs more than offset lower prices for grains and potatoes. In January 1951, the index stood at 261·1 as against 244·8 for the same month a year earlier. Influenced largely by advancing livestock prices, the index rose almost without interruption until it reached a new record high of 294·3 in July, 26·2 points above the level attained in July 1950. In August the index declined by almost 10 points below the July level, the first significant decline in the index since October 1950. The decline continued in September, the index for the month being 282·8. This drop was due principally to lower advance payments for grains in western Canada and a decline in livestock prices, particularly hog prices. The western grain price used in the construction of this index since August 1950, relates to advance payments only. From August 1950 to July 1951, advance payments consisted of initial prices plus interim payments. For August 1951, they consisted of initial prices only. Initial prices payable during the crop year 1951-52 are similar to those paid during the 1950-51 season except for barley, the initial price of which is three cents above the 1950-51 level. Subsequent participation payments will be added to these prices and the index revised upward. The index is not expected to regain the high July level during the remainder of the year. It is anticipated that the annual average will be about five to ten per cent above that of a year ago.

Little difficulty was experienced with the marketing of surplus agricultural products during the major part of 1951 except for potatoes and apples. Nevertheless the government had to support the prices of a few products. The Agricultural Prices Support Board was directed by the government to exericse some measure of price control in the sale of the Board's stocks of 1950 Canadian butter and of imported butter. Other products under price supports were potatoes, cheese, eggs and bacon.

Economic Controls.—With the prospective increase in defence activities and world shortages of essential materials it became necessary for Canada to institute direct controls designed to protect its own supplies of these scarce materials and to allocate them to essential needs and uses. In April 1951 the Essential Materials (Defence) Act of September 1950 was superseded by the Defence Production Act. The latter Act gave the government wide powers concerning the control of essential materials, and created a new department called the Department of Defence Production. Certain controls were transferred from the Department of Trade and Commerce and new controls were established. The principal controls now in effect cover steel, non-ferrous metals, chemicals, newsprint and woodpulp.

The Canadian fiscal and monetary policy is an instrument which enables the government to adopt measures designed to provide indirect controls. To balance the budget and restrain inflationary forces, the Minister of Finance in his budget speech of April 1951 imposed a 20 per cent surcharge on both the corporate and the personal income taxes. The sales tax was raised from eight to 10 per cent and the excise taxes on household appliances, automobiles, jewellery, tobacco and other goods were increased. In order to provide a deterrent to non-essential capital investment the privilege of claiming depreciation for tax purposes on newly acquired assets was deferred for a period of four years, except for certain approved types of assets.

To curb the expansion in bank credit, the Canadian banks, in 1951, agreed to adopt more conservative lending policies. This has the direct effect of controlling the increase in the aggregate volume of bank loans and bank holdings of non-government securities.

Consumer credit regulations were stiffened in March 1951 and there is some indication that the rapid increase of consumer credit outstanding in 1950 has levelled off during 1951. In February 1951 the Central Mortgage and Housing Corporation discontinued the additional "one-sixth" loan which it had been offering to home builders and later raised the rate of interest on mortgage loans made jointly by C.M.H.C. and financial institutions, in line with market rates. In

October special measures were announced to assist financing of housing in defence areas, and provision was made for some reduction in down payments on homes financed jointly with or directly by C.M.H.C.

Current Economic Developments.—Canada's official cost-of-living index has risen to a new high. The index for November 1, 1951 was 191·2 (1935-39=100), a gain of 20·5 points since November 1, 1950.

The general index number of wholesale prices (1935-39=100) fell to 239·6 in October from 240·1 in September, 241·5 in August and 244·2 in July. The October index is the lowest this year since February when it stood at 238·5. In October 1950 the index was 220·0.

Canada's domestic exports to all countries in October amounted to $371,000,000 or $55,800,000 more than in the corresponding month of 1950. The cumulative value for the ten months ending in October was $3,155,600,000, or $619,800,000 more than in the similar period in 1950.

Domestic exports to the United States in October were valued at $207,132,000 as compared with $204,436,000 in October 1950. The cumulative value for the first ten months of the year was $1,898,474,000, while the value for the first ten months of 1950 was $1,637,518,000. However, there were marked increases in shipments to the United Kingdom, Latin America, and Europe. Exports to the United Kingdom totalled $63,960,000 in October as compared with $47,707,000 in October 1951. The total value for the first ten months of the year was $510,329,000, an increase of $118,554,000 over the corresponding period of 1950. For the same ten-month period exports to Europe amounted to $273,374,000 in 1951 and $155,280,000 in 1950, and exports to Latin America amounted to $153,013,000 in 1951 and $116,685,000 in 1950.

The index of Canadian farm product prices at terminal markets rose from 249·3 for the week of September 28 to 255·4 for the week of October 26. The index for field products rose from 168·8 to 178·5 while the index for animal products moved from 329·8 to 332·4.

For all Canada the composite price index of commodities and services used by farmers, including living costs, (1935-39=100) stood at 222·7 in August as compared with 203·4 a year earlier. The index for farm family living costs was 214·7 as compared with 180·7 a year previously. The farm wage rates index rose to 457·3 from 401·2. The farm operating equipment and materials index for Canada moved to 207·7 from a level of 194·3 in August 1950.

Manufacturing activity was slower at the beginning of September than at the beginning of August. Losses recorded in Ontario more than offset the moderate advances in other provinces. Industrial disputes continued to affect some industries. On the whole little change was witnessed in logging, mining, and trade, but advances were recorded in construction, transportation, storage, and communications.

During the three months from June to August the average volume of manufacturing production in Canada exceeded the level of the corresponding period in 1950 by more than four per cent. The average gain for the first five months of the year was about 14 per cent. The Dominion Bureau of Statistics index of total industrial production stood at 204·3 in August 1951, a gain of more than seven per cent over the level of August 1950.

Industrial employment, payrolls, and average weekly wages and salaries reached record levels at September 1st. The general index number of employment, on the 1939 base, stood at 185·0 as compared with 184·3 at August 1 and 174·1 a year previously. The payrolls index was 399·1 as compared with 394·0 a month earlier, and 328·0 on September 1, 1950. Average weekly earnings rose to $50.61, an increase of 45 cents from August, and $6.44 from a year ago.

Department store sales in Canada declined eight per cent in September. They totalled $72,420,000 as compared with $78,320,000 in the same month in 1950. During the first nine months of the year sales rose five per cent to $598,980,000 from $571,930,000 in the similar period of the previous year. According to preliminary figures, sales declined three per cent during October as compared with October 1950.

The number of dwellings on which starts were made in September 1951 was 5,538 as compared with 10,245 a year earlier. The total for the nine months ending September 1951 was 57,587 as against 71,945 for the corresponding period of 1950. Completions in September totalled 7,002 or 891 less than a year earlier and the total for the nine months was 57,805 as compared to 59,431 for the first nine months of 1950.

EGG AND POULTRY PRODUCTION IN BRITISH COLUMBIA 1948-1949, PART I

R. H. CAMPBELL

Poultrymen[1] of British Columbia produced slightly more than 12 per cent of the total gross value of agricultural production of the Province for 1949.[2] Valued at farm prices, the eggs and poultry meat totalled $17·3 million. The volume of production was 29·8 million dozen of eggs and 10·3 million pounds of fowl and chicken, and the value $13·9 million and $3·4 million respectively.[3]

During 1949, as a result of the expiration in December, 1948, of the contract covering the sale of eggs to the British Ministry of Food, the poultry industry of British Columbia, which had expanded in the previous years in response to this export market, experienced a period of sudden contraction and the consequent return to production mainly for the domestic market. This curtailment of production is evident by comparing the value of production for 1947, at $18·2 million, with that for 1949 at $17·3 million.[4] The shift in the production of eggs for export to production for the domestic market is shown in Table 1.

Table 1.—Production, Imports and Exports of Eggs, 1947 and 1949[a]

—	1947	1949
	1,000 dozen	
Production	34,890	[b]29,824
Imports	119	1,997
Total Available	**35,009**	**31,821**
Exports	9,153	1,233
Used in British Columbia	**25,856**	**30,588**

[a] Compiled from the Agricultural Statistics Report of the British Columbia Department of Agriculture.
[b] Subject to revision.

Although the exports of eggs did not entirely disappear, they dropped 7·9 million dozen in 1949 as compared with 1947. However, over the same period, imports increased by 1·9 million dozen and the quantity of eggs used in the Province also increased by 4·7 million dozen. The net result of the readjustment was that production was less than consumption by three-quarters of a million dozen in 1949. On the other hand, in 1947 production exceeded consumption by 9·0 million dozen, or approximately the quantity exported.

General Description of the Poultry Industry.—Poultry production in British Columbia is concentrated mainly in the Lower Fraser Valley and the agricultural areas along the east coast of Vancouver Island. Within these areas, particularly in the Fraser Valley, a large proportion of the poultry farms is located on the uplands of light sandy and gravelly soils that are less suitable for dairy and other types of farming requiring a more fertile soil, such as occurs in the lowlands. Commercial poultry enterprises in these areas are operated on three general types of farms:

(1) specialized poultry farms with no other farm or non-farm income of importance;

---

[1] Excluding producers of turkeys, geese and ducks.

[2] Total gross value of agricultural production of British Columbia in 1949 was $140 million. *Agricultural Statistics Report, 1949.* British Columbia Dept. of Agriculture (Statistics Branch), Victoria, B.C., The King's Printer. 1950. p. 14.

[3] Canada Department of Trade and Commerce, Dominion Bureau of Statistics. *Production of Poultry and Eggs in Canada.* 1949. pp. 4, 24-25.

[4] Canada Department of Trade and Commerce, Dominion Bureau of Statistics. *Production of Poultry and Eggs in Canada.* 1947. pp. 3, 7, 11-12.

(2) part-time farms having a small to medium size poultry enterprise, specialized in the sense that other farm income is small, but with non-farm income often amounting to as much as or more than farm income; they are operated usually by persons in semi-retirement or who have full-time occupations other than farming;

(3) mixed farms on which a small to medium size poultry enterprise, that may or may not be the main enterprise, is combined with other farm enterprises, such as small fruits or dairy, and operated by full-time farmers.

Though not included in this study, a number of breeder-hatchery farms are operated in these areas.

Feed and supply companies have branches in all towns and deliver orders to the farm for a small charge. Many of them employ a trained fieldman. Wholesale egg and poultry dealers operate an "at the farm" pick-up service on a weekly basis and at a shorter interval if necessary. Electricity is available to most of the farms in all districts.

Scope and Method of the Study.—The areas covered by this study were the Lower Fraser Valley, with the exception of the districts flooded in the spring of 1948, and the agricultural areas along the east coast of Vancouver Island. Farms having less than 200 layers at October 1, 1948, were not included, since, by definition, they were classed as non-commercial poultry enterprises. Detailed data for the operation of the poultry enterprise were obtained by the account book method for the year October 1, 1948 to September 30, 1949. A total of 228 account books were opened at the beginning of the year on farms selected at random. Of these, 117 were completed for analysis at the end of the year, and it is on the data contained in these records that this article is based.

Land and Buildings.—Since nearly all layers were confined, most of the land was used to provide range for young stock. This required an average of 2·5 acres per farm, most of which was improved, with one to four acres used for this purpose on nearly 70 per cent of the farms in the study. A permanent seeding of tame grasses and clover or alfalfa, or, in some cases, an annual seeding of fall grain such as rye or oats was used for range on over half the farms. On the remainder, wild grasses occasionally mixed with clover predominated.

Laying houses were generally one storey in height and of frame construction on a foundation of concrete blocks, cedar blocks, or solid concrete. Wooden flooring was most common, although 23 per cent had concrete floors. Open screened windows along the full length of the front of the laying house provided light and fresh air in the building. Two-thirds of the laying houses contained a feed storage room. Egg storage was seldom provided in the laying house, but was usually in the basement or other cool area of the operator's dwelling or in a separate small specially constructed building. Feed and egg storage were not generally combined. Thirty-nine per cent of the laying houses had dropping pits under the perches, 37 per cent had community nests, but only 17 per cent had both of these features. Laying houses containing up to four laying pens were the most common with very few having more than six.

Over half of the laying pens had a floor area of 350 to 449 square feet, and 13 per cent were as large as 750 square feet or more. The most common dimensions were 20 x 20 feet, with the width varying mainly from 16 to 24 feet and the length from 20 to 40 feet. When filled to capacity, nearly two-thirds of the laying pens held 100 to 149 layers; only six per cent held as many as 300 layers or more. The average laying pen had a floor area of 512 square feet (approximately equal to dimensions of 20 x 25 feet) and provided a floor space of 3·6 square feet per layer, for 141 layers. However, when calculated on the basis of an average of 98 layers for the year resulting from housing 141 layers in the fall, the average floor space per layer would be 5·2 square feet. On the average, there was little difference in the floor area and capacity of pens or the floor area per layer for light and heavy breeds.[1] The floor area per layer, however, tended to be above average in relatively more pens of heavy breeds than of light breeds.

Brooder houses were mainly non-movable and of frame construction without insulation in the walls, though double floors were quite common. Ventilation was provided in most instances by front windows and roof ventilators, although louvres in the gable ends or under the eaves were also used as outlets instead of roof ventilators. The dimensions varied considerably, but 66 per cent of the brooder houses were 10 to 14 feet wide and 10 to 18 feet long. The most common size was 12 x 14 feet and accommodated an average of about 400 chicks.

On over half of the farms low, portable, open-sided range shelters with poultry mesh wire underneath the perches housed part or all of the young stock on range, while on the remainder brooder houses mainly were used for this purpose. More than half of the shelters were either 8 x 10 feet or 10 x 12 feet in size and held an average of 120 and 210 birds respectively.

Equipment.—The major items of laying-house equipment consisted of the water system, lights and mash feeders. Water was piped under pressure to automatically controlled water troughs in the laying pens on 28 per cent of the farms, and to taps in the laying pens on 38 per cent of the farms. On the remainder, water was usually carried to the pens from a source outside the laying house. Electric lights were used in the laying pens during the winter months on 90 per cent of the farms. Mash was fed mainly from shallow troughs mounted on stands; on only 18 per cent of the farms was it fed from self-feeders with large hoppers. Other laying-house equipment usually included a wheelbarrow, feed pails, egg baskets and hand tools for cleaning the laying pens.

Hover type oil or electric brooders having a rated capacity of 500 chicks were most popular, with over half being heated by oil. Water fountains and chick feeders completed the brooder house equipment.

Range equipment was mainly fencing, feeders and water fountains. Incubators were owned on 17 per cent but used on only 12 per cent of the farms. A few had electrically-driven egg buffers, but in the main eggs were cleaned with hand buffers. Egg cases and flats were supplied by the dealers.

Flock.—The three most common breeds in the laying flocks, in order of importance, were Leghorn (39 per cent of the total layers), New Hampshire (35 per cent), and Leghorn X New Hampshire (16 per cent), with Barred Rock and Barred Rock X New Hampshire together accounting for seven per cent of the total layers. Nearly three-quarters of the flocks consisted of one breed and only three flocks contained more than two breeds. In both the one- and two-breed flocks the three leading breeds again predominated, with Leghorn and New Hampshire the most popular two-breed combination. In 19 of the 27 flocks in which fryers or broilers were raised, New Hampshire was the breed preferred for this purpose.

Changes in the number of birds in the flock between the beginning of the survey year (October 1, 1948) and the end, (September 30, 1949) both by class and by total, were small. There was a slight increase in the laying flock from 845 birds at the first of the year to 855 at the end. However, the number of hens increased from 203 to 231 while pullets, including those not yet of laying age, decreased from 642 to 624. Breeding cockerels, raised in only 25 of the flocks, increased from 12 to 14 per flock, and fryers and broilers were unchanged at 41 per flock.

---

[1] Light breeds include Leghorn and Leghorn X New Hampshire; heavy breeds include New Hampshire, Barred Plymouth Rock, Rhode Island Red, etc.

Table 2.—Average Poultry Enterprise Inventories, 117 Farms in the Lower Fraser Valley and Vancouver Island, 1948-49

Item	Oct. 1 1948	Sept. 30, 1949	Average for the year
	—dollars—		
Land used for Poultry	842	842	842
Buildings	2,766	2,760	2,763
Flock	1,658	1,685	1,672
Equipment	494	464	479
Feed	102	41	71
Supplies	22	11	17
Total Inventory	**5,884**	**5,803**	**5,844**

Investment.—The total investment in the poultry enterprise, as an average of the inventories at the beginning and ending of the year, was $5,844 per farm, and ranged from $995 to $26,372. On 37 per cent of the farms it was between $3,000 and $5,000; on only seven per cent was it less than $2,000 and on five per cent more than $12,000.

All items in the inventory showed very little if any, change at the end of the year, with the total inventory decreasing only slightly (Table 2). The investment in real estate amounted to 61 per cent of the total. Of this percentage 47 per cent was invested in buildings and 14 per cent in land. Investment in poultry flock accounted for 29 per cent of the inventory for the year. In general, as the total investment increased, the proportion of the total invested in buildings increased and that in the poultry flock decreased. Since laying houses accounted for a large part of the building investment, this would seem to indicate that, for those farms having a large total investment in the poultry enterprise, the laying houses were not being used to capacity or were too expensive in relation to their capacity. Investment in land was relatively slightly higher in both the small and large total investments than in others. Regardless of the amount of the total investment the proportion in equipment, feed and supplies remained constant.

Table 3.—Summary of Receipts for the Poultry Enterprise, 117 Farms in the Lower Fraser Valley and Vancouver Island, 1948-49

Item	Dollars per Farm		
Cash Receipts:			
Egg sales —Market	3,972		
Hatching	574		
		4,546	
Bird sales—Layers culled	635		
Broilers and fryers	227		
Chicks and breeders	61		
		923	
Sack refunds		90	
Manure		9	
Dividends		12	
Other		7	
Total Cash Receipts			**5,587**
Additions to Inventory:			
Poultry flock increase		28	
New buildings and improvements		91	
New equipment		46	
			165
Total Receipts			**5,752**

The average value of land was $331 per acre, and was considerably higher within and adjacent to large urban areas. Most of the differences in the average values of laying birds were due to age, and, to a lesser extent, breed. Laying pullets of all breeds were valued at an average of $2.06, which was 68 cents more than for hens. For pullets and hens of the same breed approximately the same difference in value prevailed, but Leghorn pullets were valued the lowest at $2.05, followed by Leghorn X New Hampshire at $2.08, and New Hampshire and other heavy breeds at $2.12.

Receipts.—Total cash receipts per farm averaged $5,587 and were derived almost entirely from the sale of eggs and birds. Receipts from the sale of 8,715 dozen market eggs at an average price of 45·6 cents per dozen, and 961 dozen hatching eggs at 59·8 cents per dozen provided 81 per cent of the total cash receipts. It will be noted that, on the average, the premium paid for hatching eggs was 14·2 cents per dozen. However, of the 117 farms, only 34 produced hatching eggs for sale and another 11 farms produced them for hatching their own chicks. Sales of all classes of birds produced 17 per cent of the total cash receipts, with over two-thirds coming from 510 layers culled and sold at an average price of $1.25 each. Broilers and fryers were the only other important source of income, but on only 29 farms were mixed and cockerel chicks bought for the purpose of fryer and broiler production. Total cash receipts ranged from $1,102 to $21,574. Eighty-nine farms had $2,000 to $8,000; nine farms had less than $2,000 and eight farms more than $10,000 cash receipts from poultry.

The main sources of cash receipts from the sale of eggs and poultry products varied considerably, depending on the type of poultry enterprise. For purposes of analysis, four types of enterprise are considered: production of market eggs only, production of hatching eggs and market eggs, production of broilers and market eggs, and production of hatching eggs, market eggs and broilers. On all of these types of enterprise income was also derived from the sale of market eggs. Cash receipts from all egg sales ranged from 38 to 98 per cent of total cash receipts, but for only 10 farms were egg sales less than 65 per cent and for eight farms more than 95 per cent of total cash receipts.

For 22 farms producing hatching eggs for sale, cash receipts from hatching eggs averaged 28 per cent of total cash receipts and 33 per cent of all egg sales. Total egg sales were 85 per cent of the cash receipts. Hatching egg sales ranged from 9 to 58 per cent of total cash receipts and from 9 to 71 per cent of all egg sales. On 17 farms, the hatching eggs sold were 15 to 35 per cent of the cash receipts and on 14 farms were 20 to 40 per cent of all egg sales. Cash receipts averaged $7,204 and were between $5,000 and $8,000 for 15 of the farms.

Fryers and broilers provided an average of 15 per cent of the total cash receipts from poultry on the 17 farms raising them. Thirteen of these farms received less than 20 per cent, nine farms less than 10 per cent, and only one farm more than 40 per cent of the total cash receipts from this source. Eggs were still the main product, averaging 70 per cent of the cash receipts, and were more than 60 per cent of the cash receipts on 14 of these farms. Cash receipts averaged $6,250 for this group of farms and ranged from $2,000 to $7,000 for 12 of them.

Twelve farms produced both hatching eggs and fryers and broilers, and obtained 32 per cent and 12 per cent, respectively, of the total cash receipts from these two sources. However, all eggs sold provided 74 per cent of the average cash receipts of $5,786.

Sixty-six farms produced market eggs only. Cash receipts from egg sales were 85 per cent of the total cash receipts and were more than 80 per cent of cash receipts for 49 of these farms. The sale of cull layers provided 11 per cent of the cash receipts for this group of farms, and was the only source of receipts that showed no marked variation as a percentage of total cash receipts for the different poultry enterprise organizations. Average total cash receipts of $4,840 for the farms producing market eggs were lower than for any of the other three groups. For 46 of the market egg farms cash receipts ranged from $1,000 to $6,000 and for only two farms were more than $10,000.

The total receipts from the poultry enterprise averaged $5,752, of which $165, or three per cent, was non-cash receipts in the form of increases in flock inventory ($28) and in the value of buildings and equipment through improvements and purchases ($137). For the 22 farms producing hatching eggs, the average total receipts were $7,485; for the 17 farms producing fryers and broilers, $6,572; for the 12 farms producing both hatching eggs and fryers and broilers, $6,253; and for the 66 farms producing only market eggs, $4,984. Non-cash receipts were four, five, seven and two per cent respectively of the total receipts for these groups. The flock inventory increased almost $200 on the average for each of the first two groups and $258 for the third group, but decreased by $112 for the last group.

Table 4.—Summary of Expenses for the Poultry Enterprise, 117 Farms in the Lower Fraser Valley and Vancouver Island, 1948-49

Item	Dollars per Farm		
Cash Expenses:			
Feed used —purchased	3,474		
—home grown	9		
		3,483	
Litter used—purchased	62		
home grown	4		
		66	
Chicks and other stock		291	
Hired labour		51	
Electricity		24	
Fuel		24	
Medicine and disinfectant		31	
Insurance and taxes		37	
Car, truck, tractor cost		40	
Repairs—equipment	5		
buildings	15		
		20	
Small tools	7		
Cost of equipment purchased	36		
Cost of new buildings and developments	62		
		105	
Other		29	
Total Cash Expenses			**4,201**
Reductions in Inventory:			
Poultry flock decrease			
Depreciation—buildings	93		
—equipment	74		
		167	167
Total Expenses			**4,368**

Expenses.—Total cash expenses were $4,201 per farm, of which 83 per cent was spent for feed, slightly more than 2·5 per cent for litter, seven per cent for chicks and stock, and 2·5 per cent for purchase of tools and equipment and for improvements to buildings. All the other items of expense, as shown in Table 4, totalled six per cent of the cash expenses. An average of 22·2 tons of grain at $65.60 per ton and 24·3 tons of mash at $80.60 per ton were the largest items in the feed bill. Other expenses under feed included one ton of shell at $30.60, seven hundred pounds of grit at $1.35 per hundred pounds and $12 for feed supplements such as minerals and fish oil. Expenses

Table 5.—Financial Summary and Family Labour Income for the Poultry Enterprise, 117 Farms in the Fraser Valley and Vancouver Island, 1948-49

Item	Dollars per Farm
Total Receipts	5,752
Total Expenses	4,368
Family Farm Income (from poultry)	1,384
Interest on Investment	234
Family Labour Income (from poultry)	1,150
Perquisites	64
Family Labour Earnings (from poultry)	**1,214**

for chicks and other stock were mainly the cost of day-old chicks, but also included the cost of breeding cockerels and laying pullets. When chicks were obtained by custom hatching the value of the eggs used and the hatching charges were considered as the cost of the chicks.

The cash outlay for hired labour averaged $51 per farm. The value of family labour and of the labour and management of the operator were not included in the operating expenses. The net income from the poultry enterprise, therefore, covers the returns to the farm operator and his family for their labour.

The total cash expenses for the poultry enterprise ranged from $726 to $19,119. Only three farms had less than $1,000 and nine more than $7,000 cash expenses. On all but one of the farms the cost of feed was more than 65 per cent of the cash expenses and on 89 farms it was between 75 and 90 per cent.

Family Labour Income from Poultry.—After paying all cash expenses, providing for depreciation charges, and adjusting for flock inventory changes, the average farm income from poultry was $1,384 per farm. After allowing a return of four per cent on the average investment of the year, an average of $1,150 remained as the net returns from the poultry enterprise to the operator and his family for their work and management. This was supplemented by poultry products valued at $64, produced and consumed on the farm.

Family labour income from the poultry enterprise ranged from—$310 to $4,015. It was less than $500 on 30 farms, $500 to $2,000 on 65 farms, and over $3,000 on only five farms. Farm labour income averaged $1,280 for the 12 farms producing hatching eggs, fryers and broilers, $1,228 for the 22 farms producing hatching eggs, $1,152 for the 17 farms producing fryers and broilers, and $1,099 for the 66 farms producing only market eggs.

THE CATTLE ENTERPRISE IN RELATION TO FARM ORGANIZATION IN ALBERTA

T. ASKIN

Cattle have been important in the development of agriculture in Alberta. Cattle production was encouraged in the early frontier days to supply meat for settlers, traders, police, and Indians. Grazing lease policies were liberal and ranching developed quickly over a wide area.

But following the spread of farm settlement into more fertile areas, ranching was confined to land which was unsuitable for cropping[1]. The areas used for cattle ranching and crop farming moreover are not always sharply divided. There are extensive areas throughout Alberta where a combination of grain and cattle is profitable.

---

[1] Vrooman, Chattaway, and Stewart. *Cattle Ranching in Western Canada.* Tech. Bul. No. 55, Ottawa, Dept. of Agriculture, Economics Div. 1946.

Apart from the semi-arid areas where grazing is usually of first importance, there are many farms with hilly, marshy, stony, and wooded land unfit for cropping but useful for grazing. The addition of a cattle enterprise under such conditions makes possible the use of this otherwise waste land. The cattle enterprise is complementary to crop production in the use of land, labour, and forage. The present day importance of cattle on Alberta farms is shown by the comparative value of crop and cattle production. In 1948 the estimated value of the production of cattle, calves, and dairy products amounted to 40 per cent of the value of the grain, seeds, and fodder produced. In 1949 they amounted to 45 per cent and in 1950 to 50 per cent.[1]

A Sample Study.—On such crop and cattle farms, the relative importance of these enterprises is revealed in a study of 20 farms in a typical grain-cattle area in the vicinity of Camrose. It was conducted by the Economics Division, Department of Agriculture, in co-operation with the Alberta Department of Agriculture, for the accounting year November 1, 1949, to October 31, 1950.

Characteristics of Sample Farms.—These farms had both cropland and commercial cattle enterprises of significant size but there were marked variations in the sizes of farms and herds, and in the use of land and cattle, labour, machinery, and buildings. (Table 1.)

For the year 1949-50 the gross income derived from cattle was highly significant in relation to the gross income from all enterprises on these 20 farms. On the average, 55 per cent of the gross income was attributable to the cattle enterprise. The proportion of gross income attributable to the cattle enterprise for all farms in the sample ranged from 25 per cent to 88 per cent.

Table 1.—Features of Farm Organization, Average 20 Farms, Camrose, 1949-50

—	Unit	Range Within Sample	Average of 20 Farms
Total Farm Area	Ac.	294 — 1,630	667
Total Cropland	Ac.	184 — 770	422
Cattle Units[a]	No.	15·4 — 101·7	37·9
Labour Used on the Farms	Mo.	12 — 47	23
Machinery Investment per Crop Acre	$	7·77 — 27·93	15·95
Building Investment per Acre	$	3·80 — 24·33	10·68

[a] Cattle unit: One cow equals 1·0 cattle unit; one heifer or steer equals 0·7 cattle unit; one calf equals 0·3 cattle unit.

With and Without Cattle.—In order to determine fully the significance of the cattle enterprise on these farms, their incomes were compared with the incomes of the same farms in an assumed situation. The assumption was made that these farms were without cattle and that the home grown feed and fodder were sold at market prices.[2] The average labour earnings of all farms amounted to $3,230. In the assumed situation the average labour earnings would only have been $447.

Marketings.—The total receipts from the cattle enterprise on these farms were obtained principally from the sale of cattle (69 per cent), the increase in inventory (25 per cent), and the sale of cream (6 per cent). While marketing practices varied on these farms from year to year, the cattle sold in order of their numerical importance by groups were: steers, cows, heifers, calves, and bulls. Nearly all the steers, cows, and heifers were sold to the meat trades and the bulls were sold mostly to local farmers or at auction sales.

---

[1] *Estimated Gross Value of Agricultural Production.* Prepared by the Agricultural Extension Service of the Alberta Dept. of Agriculture, Edmonton. Revised estimates for 1948, 1949 and preliminary for 1950.

[2] The receipts and expenses were adjusted to this assumed situation. Farm organization and management were assumed to remain unchanged. The physical factors, land, buildings, and machinery were taken as given, that is, these overhead costs remained constant between the two situations under comparison. The effect would be some "wasting" of resources, which would increase cost per unit output in the assumed situation and consequently "unduly" decrease labour earnings.

Farm Returns.—The 20 farms in the sample were divided into two groups for purposes of comparison. The high ten operator-labour earnings group was compared with the low ten operator-labour earnings group.[1]

The high income group received 60 per cent of their gross income from cattle and only 21 per cent from crops. The low income group received 46 per cent of their gross income from cattle and 36 per cent of their gross income from crops.

The ten high income farms had one cattle unit per 18 acres and the low income group had one cattle unit per 23 acres. Cropland accounted for 59 per cent of the total farm area in the high as compared to 69 per cent in the low income group.

These high and low income groups were also compared in respect to total output and input related to the cattle enterprise. The high income group averaged 41 cattle units compared with 25 cattle units per farm in the low income group. There were more head sold per farm in the high income group and the sale price per head at an average of $190 was $25 above the average received in the low income group.

In the high compared with the low income group there was more dollar output per dollar of input. For the high income group labour earnings averaged $224 per $100 worth of feed used compared with $145 per $100 worth of feed used in the low income group. There was practically no more labour used on the cattle enterprises in the high income group with the greater number of cattle than in the low income group.

Costs.—In determining net earnings, both overhead and operational costs must be considered. Overhead costs include an allowance for the use of farm buildings and machinery as well as interest on money invested in the cattle inventory.

Operational costs include several items, two of the most important being labour and feed. These costs varied widely between farms, and in relation to income from cattle. On some farms the investment in buildings and the amount of labour available were not in keeping with the requirements of the enterprise. One thing further should be noted—the peak requirements in the use of buildings and labour for the cattle enterprise came during the winter months, a time when the crop enterprise was making the least use of them.

The situation was somewhat different respecting the use of feed. The amount utilized was more in keeping with what was required, as based on the nutrient requirements of cattle. Some variations are possible in the relative quantities of forage, grain, and supplementary feeds used, without affecting the provision of required nutrients. For these reasons variations in the value of feed used based on nutritional qualities were closely associated with income from cattle. This close relationship between feed used and income emphasizes the importance of feed price and product price ratios as a control on net income of the enterprise.

Concluding Observations.—Beef cattle as an enterprise was profitable on practically all farms in Alberta in 1950 by reason of the unusually high prices which prevailed for cattle. The cattle enterprise was particularly profitable for farmers who had access to cheap grazing land. Access to cheap grazing land of course is one of the chief conducive factors for carrying a cattle enterprise on a farm. On many farms in Alberta predominantly suited to arable agriculture there are low lying, hilly, stony, or light textured areas better suited for grazing. Utilization of such non-arable land to support a cattle enterprise complementary to crop production on the arable land provides an opportunity for increasing farm returns. This is shown markedly in the returns on the mixed grain-cattle farms of the Camrose district in 1950. Shown also is the opportunity of increasing these returns by more efficient feeding and by more complete use of labour.

Federal-Provincial Agricultural Conference

The 1951 Federal-Provincial Agricultural Conference was held in Ottawa on December 4 and 5. As in previous years the Conference was devoted to a discussion of the outlook for the production and marketing of various agricultural commodities in the following year. The Conference was attended by officials of the Federal and Provincial Departments of Agriculture and of the Canadian Federation of Agriculture.

---

[1] High and low income groups hereafter in this article refer to high and low operator-labour earnings groups.

TECHNICAL ASSISTANCE TO UNDERDEVELOPED COUNTRIES. PART II[1]

J. B. SMITH AND J. F. BOOTH

The Colombo Plan.[2]—The Colombo Plan is a British Commonwealth "blueprint" for promoting economic development in South and South-East Asia.

When one considers that yearly income in India and Ceylon is approximately $62 per capita as compared with a per capita income of more than $1,000 in Canada and the United States, little more need be said about the low levels of living in South-East Asia. The long-felt pressure of poverty and hunger on people in this part of the world necessitates some form of assistance.

Since the end of World War II a considerable measure of assistance has been afforded to South-East Asia by the United Kingdom, the United States, Canada, Australia and New Zealand. Sizeable loans and grants were made for immediate postwar relief, war damage compensation, rehabilitation, colonial development, releases of sterling funds and technical assistance.[3]

Technical aid consisted mainly of advice in conjunction with projects financed by the United Kingdom Colonial Development and Welfare, and the Colonial Development Corporation funds. Other assistance included training of personnel and active participation in research projects. All of these types of assistance, however, were only the beginning of a much broader program which resulted from the conference of Commonwealth Foreign Ministers held at Colombo, Ceylon between January 9 and 14, 1950. At this Conference, the Australian Minister for External Affairs introduced a resolution recommending "that the Commonwealth government consider a project of economic co-ordination whereby each member would provide material help to South-East Asia". He further proposed that a Commonwealth Consultative Committee be established to formulate practical measures for the development of the region.

At a subsequent conference at Sydney, Australia, the following recommendation was made:

> A Commonwealth Technical Assistance Scheme for the area should be inaugurated... to organize technical assistance between governments. The aggregate of assistance involved would be £8,000,000 sterling over a period of three years. A Commonwealth Bureau should be set up at Colombo to co-ordinate the work.[4]

A standing committee was assigned the task of drafting a constitution for a council for Technical Co-operation. The types of technical assistance to be rendered by the newly-formed organization under this constitution, which was accepted at the London Conference, 1950, are similar to those adopted by the United Nations Organization.[5]

At the conferences referred to and at others, a six-year plan was designed for the economic development of India, Pakistan, Ceylon and Malaya and Borneo. Seventy per cent of the program is devoted to agricultural production.[6]

Agriculture is a major concern of the Colombo Plan but a number of large industrial projects are also incorporated in the program. These include railway and road construction and the development of mills and factories. Improvement of social services is also planned. In India, Pakistan and Ceylon, industrial and agricultural development will be combined in vast multi-purpose projects, which involve the opening-up of new areas for cultivation through irrigation, flood control and the production of hydro-electric power.[1] Singapore, on the other hand, places the main emphasis on health education and housing rather than on agriculture or industrial development. Other aims of the Plan are the interchange of technical experts and the provision of scholarships.

---

[1] Part I appeared in the October issue of *The Economic Annalist*.
Part II was prepared in September 1951. The reader is asked to bear this in mind when reference is made to "the present" and "the near future".

[2] For a more comprehensive discussion on the Colombo Plan see: *The Colombo Plan for Co-operative Economic Development in South and South-East Asia* by the Commonwealth Consultative Committee, London. [Command Paper (Cmd.) 8080]. London, His Majesty's Stationery Office. Sept.-Oct. 1950; *New Horizons in the East.* London, His Majesty's Stationery Office. 1950; and John R. D. Carr-Gregg, *A Commonwealth Program for South-East Asia.* New York, Carnegie Endowment for International Peace. Jan. 1951.

[3] *The Colombo Plan for Co-operative Economic Development in South and South-East Asia.* Chap. II.

[4] Carr-Gregg, John R.D. op. cit. p. 28.

[5] For a discussion on the types of assistance rendered by the United Nations Technical Assistance program, see Part I of this article. *The Economic Annalist,* Oct. 1951. pp. 101-106.

[6] Carr-Gregg, John R.D. op. cit. p. 39.

On July 1, 1951, the Colombo Plan went into operation with 15 countries participating. What was originally a Commonwealth program developed into a broader program and now includes Australia, Great Britain, Canada, Ceylon, India, Pakistan, New Zealand, and Vietnam, Laos and Cambodia in Indo-China, as well as the colonial territories of Malaya, Singapore, North Borneo and Sarawak. The United States has agreed to act in an advisory capacity.

The total cost of the six-year program is estimated at £1,868 million sterling, the equivalent of approximately $5·2 billion. Of this total Great Britain will contribute the equivalent of about $840,000,000 while the Canadian government has agreed on $25 million as its contribution for the first year of the Plan. Of the total amount, India is to receive assistance to the extent of $3·86 billion (£1,379 million sterling). Corresponding figures for Pakistan, Ceylon, and Malaya and Borneo are 78, 28 and 29 millions of dollars (280,102 and 107 million pounds sterling), respectively.

The following results are expected at the completion of the six-year plan:[2]

More land under cultivation: 13 million acres (increase of 3½ per cent);
More food grains produced: 6 million tons (increase of 10 per cent);
More land under irrigation: 13 million acres (increase of 17 per cent);
More electric generating capacity: 1·1 million kilowatts (increase of 67 per cent).

On July 16, 1951, three members of an Agricultural Mission from Pakistan arrived in Ottawa under the provisions of the Technical Co-operation Program of the Colombo Plan. This occasion marked Canada's first step toward the realization of carefully designed proposals. Since mid-July a number of other agricultural specialists from Pakistan and India have joined the Agricultural Mission. In general terms, the purpose of this mission is to enable participating officials to familiarize themselves with agricultural facilities and farming methods in Canada. It is hoped that some of the better techniques and methods of Canadian agriculture may be adopted in South and South-East Asia. The present delegation is especially interested in the potentialities and adaptability of Canadian farm machinery and equipment in their own countries. In addition, other factors associated with better farming, such as the training facilities available and the Canadian developments in the field of co-operative marketing (especially for fruits and vegetables) are also being studied.

A second mission working in Canada is the Highways and Bridge Erection Mission. Several specialists from Pakistan and India will visit road, bridge and other construction projects.

A third mission now in Canada is the Hydro-Electric Mission made up of several officials from India and Pakistan. These officials are engaged in a survey of Canadian hydro-electric development, and will devote particular attention to problems relating to construction of electrical equipment, maintenance, the prevention of silting and related subjects.

In addition to these three missions provision has been made for instruction courses to be given at government departments and universities, and in industry for a number of students who will be granted scholarships and fellowships under the Colombo Plan. During July and August approximately twenty students arrived in Canada from India, Ceylon and Pakistan. Others will follow in the near future. These students will spend from six months to one year obtaining practical training and will take courses in such fields as civil engineering, mechanized agriculture, power generation, transmission and distribution, nutrition and dietetics, optics and optical instruments, forestry and pulpwood, geology, physics and stress analysis, cold storage, Canadian fruit production, insect control and the sugar beet industry.

Other fields of study will include railway transportation, higher education, virus diseases and other branches of medical science, the national insurance programs, farm and soil mechanics, factory management, crop and animal husbandry, land settlement and town planning.

---

[1] Ibid.

[2] Carr-Gregg, John R.D. op. cit. p. 39.

Another aspect of the Colombo Plan for Economic Development in South and South-East Asia is that of sending technical advisers from the more developed countries to "requesting" areas. The first Canadian technician to be accepted by any of the participating countries left in August for Ceylon. It will be the task of this specialist during the next 18 months to assist Ceylon in re-organizing all the phases of her fishing industry.

Progress has been made on another aspect of the Plan. On September 10, 1951, the Government of Canada agreed with the Governments of India and Pakistan on a statement of principles for the co-operative development of these two countries under the Colombo Plan. Briefly these principles established that:

(1) Canada will provide goods and services in accordance with specific programs agreed upon from time to time between the governments concerned;

(2) Canadian aid will be available on either a grant or a loan basis depending on the nature of each specific program;

(3) Where goods and services supplied are financed by grants from the Canadian Government and such goods are sold or otherwise distributed to the public of the "receiving country" (i.e India and/or Pakistan) the government of the "receiving country" will pay into a special account, created for this purpose, the rupee equivalent of the Canadian expenditure on such goods and services. The two governments concerned will from time to time agree on the development projects to be financed from this account.

In the case of loans, the terms will be determined by the two governments concerned. These terms will relate primarily to the commercial character of the project in question, to its anticipated earnings and to its anticipated effects on the foreign exchange position of the "receiving country".[1]

In addition, the Governments of Canada and Pakistan have made a tentative agreement on the projects to be undertaken in Pakistan with Canadian assistance during the first year of the Plan. These projects will cost about $10 million and include the following: (1) capital works and equipment (dump trucks, motors, pumps, etc.) in connection with a large settlement scheme in the Thal Area where irrigation is being extended; (2) experimental and demonstration work in the field of livestock, and (3) the provision of some electrical and transport equipment.[2]

All Canadian commitments under the Colombo Plan for the Economic Development of South and South-East Asia, including the capital development program[3] as well as the program for technical training and guidance[4] are administered by the International Economic and Technical Co-operation Division of the Department of Trade and Commerce.

The Point Four Program.—The scope of the United States assistance programs has been broadened, especially since the end of World War II. With the introduction of the Point Four Program (January 20, 1949), assistance to many countries has been intensified.

In a report on foreign economic policy submitted to the President of the United States in November 1950, it was recommended that the technical assistance programs be expanded in scope and made more effective. More specifically the report stated "...that a needed, feasible, and effective program would require funds up to about $500 million a year for several years, apart from emergency requirements arising from military action".[5]

The President's International Development Advisory Board, appointed to consider the proposals made in respect of American policy toward under-developed areas, recommended: (1) the consolidation of existing United States foreign aid activities,[1] (2) a substantial increase in financial appropriations for assistance purposes, (3) the encouragement of private investment abroad, (4) the extension of loans by the International Bank for Reconstruction and Development to private enterprise, and (5) the maintenance of a large volume of exports of materials and equipment to under-developed areas.[2]

---

[1] "Economic Development of India Promoted by Financial Assistance from Canada". *Foreign Trade*. Dept. of Trade and Commerce, Ottawa. Sept. 15, 1951. pp. 378-9 and "Canada to Provide Financial Assistance for Economic Development of Pakistan", p. 382.

[2] "Canada to Provide Financial Assistance for Economic Development of Pakistan". *Foreign Trade*. Dept. of Trade and Commerce, Ottawa. Sept. 15, 1951. p. 382.

[3] Amounting to approximately $25,000,000.

[4] The Technical Assistance Service of the Department of Trade and Commerce provides for technical training and guidance under the Colombo Plan and under the United Nations.

[5] *Report to the President on Foreign Economic Policies* (Gray Report). Washington, D.C., U.S. Govt. Print. Off. November 10, 1950, p. 14.

During 1950 Point Four "took definite form in the act of International Development... It received $34,500,000 to get under way ...At this stage it may be said that Point Four... consists of 139 projects that the TCA [Technical Co-operation Administration] is carrying out in thirty-four countries".[3]

Summary.—Conditions prevailing in under-developed areas were reviewed briefly in this article and the need for assistance to these areas was emphasized. The development and growth of three major Technical Assistance Programs were sketched and some indication was given of the type and scope of the work accomplished or in progress.

Space limitations do not permit a discussion of the many other aspects of technical assistance programs. One further point, however, is worthy of consideration—that is the importance of sound planning. The degree of success attained by the international bodies in their attempts to improve the general, social and economic welfare of the less fortunate peoples of the world is contingent upon continuous and sound social and economic planning. It has been said that the success of technical aid programs rests with two factors:

> (*a*) The number of trained men who can be persuaded to assist in putting the various schemes into practice and (*b*) the supplies of machinery, equipment, materials, clothing and goods that can be obtained from abroad over and above what they [the under-developed areas] can pay for themselves.[4]

The preparedness of the more industrialized nations to furnish aid in the form of capital goods and services and technical "know how" is an essential requirement. Equally important in bringing about success, however, is a second element—the ability of the "requesting countries" to utilize the aids supplied. This is dependent upon a variety of factors. The customs, habits, education, religion and general psychology of the peoples of under-developed areas are among the most important of these factors and call for detailed study in each particular area. A group of experts states that pre-conditioning of the areas in which projects are to be initiated is indispensable to the achievement of any appreciable degree of success. They claim that:

> Economic progress will not occur unless the atmosphere is favorable to it. The people of a country must desire progress and their social, economic, legal and political institutions must be favorable to it.[5]

SIZE AND TENURE OF FARMS IN THREE PRAIRIE AREAS OF SASKATCHEWAN

R. A. STUTT

Size of farm and type of tenure constitute the main elements of the economic problems pertaining to the use of farm land. The experiences of farmers in the Prairie areas of Saskatchewan also emphasize the need for the determination of the most advantageous scale of operations. The type of land tenure, on the other hand, will be reflected in the distribution of income, and the degree of economic security achieved by various farmer groups.

---

[1] The administration of the Point Four Program is the responsibility of the Technical Co-operation Administration of the Department of State.

[2] Belair, Felix Jr. *New York Times.* March 18, 1951.

See also *Partners in Progress.* A Report to the President by the International Development Advisory Board. Nelson A. Rockefeller Committee. Washington, D.C., U.S. Govt. Print. Off. March 1951.

[3] Leviero, Antony *New York Times*, June 24, 1951.

[4] "Circular Outlines Functions of Technical Assistance Service," in *Foreign Trade.* Canada Department of Trade and Commerce. March 3, 1951. p. 352.

[5] *Measures for the Economic Development of Under-Developed Countries.* Report by a group of experts appointed by the Secretary-General of the United Nations, U.N. Department of Economic Affairs. Lake Success, New York, May 1951.

The physical characteristics of farm lands in Southern Saskatchewan were inventoried by the Soils Department of the University of Saskatchewan. The mapping, which shows the level of gross productivity, was followed by a program of economic classification of land[1] conducted by the Economics Division of the Canada Department of Agriculture in co-operation with the Department of Farm Management of the University of Saskatchewan. This program was designed to determine the estimated potential productivity of land in terms of wheat production.

During the course of the program of land classification, a complete record was made of the location, size and tenure of all farm units. This article gives a summary of the number of farms according to size, land class and farm tenure.

Table 1.—Percentage Distribution of Farms by Size and Land Class for Three Representative Areas of Saskatchewan

Land Class	Number of Farms	Number of Quarter-sections in Farm			
		1–2	3–4	5–6	7 and over
		—per cent—			
Govenlock-Eastend-Maple Creek					
I	989	9·5	24·0	20·5	46·0
II	531	27·2	32·5	22·2	18·1
III	633	26·4	32·9	20·8	19·9
IV and V	86	24·4	45·3	14·0	16·3
All classes	2,239	19·0	29·4	20·7	30·9
Elrose-Rosetown-Conquest					
I	519	28·3	28·5	20·6	22·6
II	699	43·6	32·8	16·5	7·1
III	932	41·4	35·1	13·9	9·6
IV and V	1,460	33·5	37·7	17·0	11·8
All classes	3,610	36·7	34·8	16·6	11·9
Cory-Asquith-Langham					
I	380	46·6	33·7	12·9	6·8
II	545	62·0	27·0	7·0	4·0
III	557	59·6	28·5	8·1	3·8
IV and V	147	55·1	28·6	10·9	5·4
All classes	1,629	57·0	29·2	9·1	4·7
All Three Areas					
I	1,888	22·1	27·2	19·0	31·7
II	1,775	44·3	30·9	15·3	9·5
III	2,122	41·7	32·7	14·5	11·1
IV and V	1,693	34·9	37·3	16·3	11·5
All classes	7,478	35·8	31·9	16·3	16·0

Three separate areas were selected with a view to obtaining reliable information on factors pertaining to size of farm and the manner in which land is held by farm operators. These areas are as follows:

(1) a block of 20 municipal units in the extreme southwest corner of the province, referred to as the Govenlock-Eastend-Maple Creek area.
(2) a block of 12 municipal units in West-Central Saskatchewan in the Elrose-Rosetown-Conquest area.
(3) a small block of 4 municipal units in Central Saskatchewan adjacent to Saskatoon and referred to as the Cory-Asquith-Langham area.

All of these areas are located in the prairie section. The first is in the Brown soil zone, while the second is partly in the Brown and partly in the Dark Brown soil zone. The Cory-Asquith-Langham area is in the Dark Brown soil zone but closely borders the Black soil zone and the parkland section. Surveys were made in the respective areas in 1946, 1944 and 1943.

---

[1] See Technical bulletin No. 36. *An Economic Classification of Land in Fifty-six Municipal Divisions, South Central Saskatchewan.* Ottawa, Canada Department of Agriculture. 1941.

The land occupancy records indicate a total of 2,239 farms in the Govenlock-Eastend-Maple Creek area, 3,610 in the Elrose-Rosetown-Conquest area; and 1,629 in the Cory-Asquith-Langham area. Average number of farms in each municipality in the respective areas was 112, 301 and 407. Average area per farm was 1,029 acres in the Southwestern area, 612 in the West Central area and 441 in the Central area. While the average size of farm in terms of total assessed acres in the Govenlock-Eastend Maple Creek area was nearly two and a half times that of the farms in the Cory-Asquith-Langham area, the cultivated acreage was only about one and one-half times greater. The acreage in pasture in the southwestern area averaged 566 acres per farm, which was over four times the average grazing acreage in the area surrounding Saskatoon. In all cases, farms in the Elrose-Rosetown-Conquest area were between these extremes.

Distribution of Farms by Size.—There was considerable variation in size of farm among the various areas and grades of land as may be seen from Table 1.

Half of all the farms comprise one section (640 acres) or less and about 31 per cent are seven quarter-sections or more in the Govenlock-Eastend-Maple Creek area. In the Elrose-Rosetown-Conquest area half of all farms are three-quarter section units (480 acres) or less, and in the Cory-Asquith-Langham area about 50 per cent cover one-half section (320 acres) or less. There is evidence of a gradual decrease in farm size from the extreme southwestern section to the northern and eastern portions of the Province.

A classification of farm size by grade of land for these areas, however, gives a somewhat different picture. In land class I, large farms (seven quarter-sections and over) were the most common in the Govenlock-Eastend-Maple Creek and Elrose-Rosetown-Conquest areas. In the Cory-Asquith-Langham area, one quarter-section farms were the most common. These totalled one-quarter of all farms in this land class. The trend toward small farms on this grade of land is quite pronounced in this area as approximately two thirds are three quarter-sections or less.

The wheat yielding capacity of farms in land class II is low and in this class, under average conditions and typical management, a typical farmer has to have at least three quarter-sections to provide a living for himself and his family. This size of farm, however, is not large enough to provide sufficient returns to pay for the use of land either as rent or interest.

In wheat farming profits depend on the *size of the unit* as well as on the *quality of the land* and the marginal size of farms decreases for grades above land class II. Because of a large acreage, some farms located on land graded as submarginal for wheat production (land class I) may constitute good economic units whereas farms located on land graded as supramarginal for wheat production (land classes III, IV and V) may not represent good economic units, owing to inadequacy of size.

Calculations based on average arability for each grade of land, the typical proportion of cropland in wheat, and anticipated normal yields show that at least six quarter-sections are needed by farmers with land class I to form an economic farm size. Similar calculations indicate that at least two quarter-sections are needed with land class III, while all farms in land classes IV and V are considered to be economic units.

Farms considered uneconomic because of inadequacy of size were classified according to land grade for each area. Two-fifths of the farms in the Govenlock-Eastend-Maple Creek area and one-third of those in the Elrose-Rosetown-Conquest area were in this category. In the Cory-Asquith-Langham area, the corresponding figure was 68 per cent. But when this percentage is adjusted to take account of the predominance of other farm types, uneconomic wheat farms represent only one-fifth of all farms in the area.

Opportunities for enterprises other than wheat[1] are limited in Southwestern Saskatchewan and an increase in size is the principal way of increasing returns. In the Cory-Asquith-Langham area, however, and to a limited extent in the Elrose-Rosetown-Conquest area, opportunities to increase yields and to build up supplementary enterprises are more numerous. A study[1] conducted in the Cory-Asquith-Langham area in 1943 indicated that only 17·8 per cent of the farms in land class I were crop farms. All types of land considered, crop farms represented 31·9 per cent of all farms. Livestock and mixed livestock crop farms were the predominant types.

---

[1] Only farm enterprises associated with arable agriculture are considered here. This excludes ranching.

Farms in each of the other land classes were generally larger in size in the Govenlock-Eastend-Maple Creek area than in the other areas. Half-section farms, however, were the most common in each area for land classes II and III. In nearly all cases, about two-thirds of the farms were half-section, three-quarter section or one section family farms. This situation prevails even in land class V (excellent wheat land) where mechanization has attained its highest level. When a system of farming is based on mechanized wheat production these are the sizes of farms which made it possible to attain optimum efficiency. These farm units are better supplied with capital. Net returns per unit, however, may tend to be relatively small if there is considerable duplication of equipment units and if hired labour makes up too large a part of cash expenditures.

Table II.—Percentage Distribution of Farms According to Tenure and Land Class for Three Representative Areas of Saskatchewan

——	Govenlock-Eastend-Maple Creek	Elrose-Rosetown-Conquest	Cory-Asquith-Langham	Total
		—per cent—		
Land Class I (**Submarginal for wheat production**)				
Owners	41·4	41·2	40·0	41·1
Part-Owners	46·1	35·3	31·8	40·2
Tenants	12·5	31·8	28·2	18·7
Land Class II (**Marginal for wheat production**)				
Owners	49·7	40·3	35·6	41·7
Part-Owners	36·9	33·3	29·0	33·1
Tenants	13·4	26·4	35·4	25·2
Land Class III (**Fair wheat land**)				
Owners	49·9	45·5	42·9	46·2
Part-Owners	36·3	29·7	31·1	32·0
Tenants	13·8	24·8	26·0	21·8
Land Class IV (**Good wheat land**)				
Owners	45·3	49·9	44·6	48·5
Part-Owners	25·6	28·1	33·8	28·8
Tenants	29·1	22·0	21·6	22·7
Land Class V (**Excellent wheat land**)				
Owners	....	50·4	25·0	50·2
Part-Owners	....	28·0	37·5	28·1
Tenants	....	21·6	37·5	21·7
All Land Classes				
Owners	46·0	45·8	39·8	44·5
Part-Owners	40·4	30·5	30·8	33·6
Tenants	13·6	23·7	29·4	21·9

Relation of Tenure of Land Class and Farm Size.—The conditions under which farm operators hold their land have a direct bearing on decisions relating to the use of physical resources. They also determine the degree of efficiency with which these resources serve the needs of the farm families. Problems associated with the effective use of the land are complicated by the existence of a variety of types of land ownership. Parcels may be widely scattered which makes it difficult to block them into a farm unit of economic size. Insecurity of tenure may also lead to misuse or over-exploitation of the land resources.

---

[1] Stutt, R.A. *A Farm Business Study with Particular Reference to the Relation of Farm Types and Land Class, Cory-Asquith-Langham Area, Saskatchewan, 1943.* Ottawa, Canada Dept. of Agriculture. 1949.

Data pertaining to the three areas under study indicate that about 44 per cent of the operators are owner-operators, 34 per cent part-owners and 22 per cent tenants (Table II). The pattern of tenure is very similar in West Central and Central Saskatchewan but in Southwestern Saskatchewan there is a more pronounced tendency to add rented land to owned land in order to obtain a more efficient unit. Wholly rented farms are not as common in the Govenlock-Eastend-Maple Creek area as in the other two areas.

The pattern of farm tenure showed a tendency towards part-ownership on the poorer grades of land and full ownership on the better grades of land. This trend was evident in all areas but more pronounced in the Govenlock-Eastend-Maple Creek area.

The percentage of tenant-operated farms ranged from 12·5 per cent in land class I to 29·1 per cent in land class IV in the Govenlock-Eastend-Maple Creek area. A different pattern prevailed in the Elrose-Rosetown-Conquest area where tenant-operated farms ranged from 31·8 per cent in land class I to 21·6 per cent in land class V.

In the Cory-Asquith-Langham area, where a more diversified type of agriculture is found, the proportion of owners, part-owners and tenants did not vary greatly between land classes.

Tenancy represents a means of increasing the farm size and, thus, the chances of increasing the level of income from farming operations. The operator is afforded the opportunity of attaining greater production efficiency by using part of his capital to acquire machinery and equipment instead of full ownership of the land. Renting land is a good alternative to ownership when capital is limited. It provides an increase in size of business with a smaller capital outlay and lower risks. In the higher risk areas of Saskatchewan, and particularly on the poorer grades of land, farmers have generally taken full advantage of renting opportunities.

The relation of farm tenure to size of farm was well-marked in each of the three areas. Part-owned farms average 1,382 acres in the Govenlock-Eastend-Maple Creek area. This acreage is about 70 per cent larger than for owned farms and about double the size of tenant-operated farms. Part-owned farms averaged about 850 acres in the Elrose-Rosetown-Conquest area and 625 acres in the Cory-Asquith-Langham areas. As in the Govenlock-Eastend-Maple Creek area, they were about 70 per cent larger than owned and rented farms.

There was no significant difference in the size of farms held by various tenure groups with respect to land class, but cultivated acres per farm increased from land class I to land class V. For each grade of land the improved area was highest in the Govenlock-Eastend-Maple Creek area and lowest in the Cory-Asquith-Langham area.

Among tenure groups, rented farms tended to have a higher percentage of arable land, especially in the southwestern area. This indicates that most rented farms belong to the crop type of farm. Owned and part-owned farms, on the other hand, maintain livestock as a supplementary enterprise in order to utilize the grazing portion of the land.

ERRATUM

Vol. XXI, No. 4, August 1951, article on "Trends in Rural Population in Canada with Particular Reference to the Maritime Provinces" by J. Coke, paragraph 2, page 89. Please **delete:** "building $2,337, land $1,488, stock $1,829, machinery $1,248" and **substitute:** "building $3,682, land $3,924, stock $2,572, machinery $1,623".

LITERATURE

Measures for the Economic Development of Under-Developed Countries. Report by a group of experts appointed by the Secretary-General of the United Nations, United Nations Dept. of Economic Affairs, New York, N.Y. (In Canada: The Ryerson Press, Toronto). May, 1951. pp. ix + 108.

This report is divided into three parts. Part 1 contains a brief account of the group's terms of reference and analysis of unemployment and under-employment in under-developed countries. In Part 2, the experts deal with measures requiring domestic action covering such topics as the pre-conditions of economic development, economic organization, technology, domestic capital formation, population growth and the priorities and techniques of development planning. Part 3 relates to measures requiring international action. Here the experts discuss problems concerning the terms of trade of under-developed countries and the external capital requirements for rapid economic development.

In addition to numerous suggestions for action contained in the body of the report, the experts make sixteen major recommendations. Eight of these recommendations deal with national measures to be taken by the governments of the under-developed countries themselves in order to provide the pre-conditions and institutional framework of economic development and to promote rapid economic development. Several of these recommendations involve actions on the part of the governments in which they could be greatly assisted by the United Nations and the specialized agencies through the expanded program of technical assistance which is now in full operation.

NEW PUBLICATIONS BY THE ECONOMICS DIVISION

The Dairy Farm Business in Eastern Ontario, by J. A. Dawson. Processed Bul., Economics Div., Canada Dept. of Agriculture, Ottawa. June 1951.

This is the report of a survey in 1947 of 185 Eastern Ontario dairy farms, 142 of which had been visited 10 years previously. The records acquired during 1947 provided information on the organization of farms in the area and on the factors which resulted in some farmers receiving higher incomes than others. It was also possible to make a study of the changes which had taken place in the 142 farms over the 10-year period, 1937-1947, and to consider their main causes.

The Market for Farm Products in the Creston Valley Area of British Columbia, 1946, by J. C. Maxwell, Processed Bul., Economics Div., Canada Dept. of Agriculture, Ottawa. 1951

This study covers the production, distribution, local consumption and outside markets for 60 individual commodities in the Creston area during the year 1946. More than 30 million pounds of fruit, for the most part apples, were shipped out of the Creston Valley in 1946. In addition 11,316 tons of grain, mostly wheat, were shipped out. These two crops accounted for 95 per cent of the weight of all agricultural commodities leaving the Valley. The largest volume of produce shipped out, 37 per cent of the total, went to the coastal district of British Columbia. Grain, seed and livestock feed made up 75 per cent of the total weight of agricultural produce brought into the area in 1946, over 80 per cent of this coming from Alberta.

Farm Organization in the Creston Area of British Columbia, 1947, by R. C. Blair and E. D. Woodward. Processed Bul., Economics Div., Canada Dept. of Agriculture, Ottawa. 1951.

During the summer of 1947 enumerators obtained by the one-call survey method 131 farm business records covering all types and sizes of farms in the Creston Valley. The average capital investment for all farms was $11,750. It was highest for the tree fruit farms, and these also had the highest proportion of capital invested in real estate. Average labour income was found to be highest for the tree fruit and small fruit farm types and was negative for over half of the mixed farms studied. Variations in returns were found to be due to many causes, among them specialization, managerial ability, location and size of farm.

THE
ECONOMIC ANNALIST

FEBRUARY 1952

Vol. XXII, No. 1

DEPARTMENT OF AGRICULTURE
OTTAWA, CANADA

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS
MARKETING SERVICE, ECONOMICS DIVISION
DEPARTMENT OF AGRICULTURE, OTTAWA

Published by Authority of the Right Hon. James G. Gardiner, Minister of Agriculture

---

INDEX Volume XXII, 1952

PAGE

Agricultural Products Marketing Act, 1949 45
Agricultural Products, 1935-1951, Marketing Margins for Canadian .... *F. M. Schrader* 53
Alberta, Comparative Costs of Typical Sequences of Field Operations in .... *H. K. Scott* 13
Alberta, Post-war Development of Bushland Farms in Northern .. *K. Elgaard* 32
Appraisal: A few Methods and Suggestions, Farm .... *P. G. Muller* 137
Area Representation on Boards of Directors of Regional Co-operatives in Canada .... *J. E. O'Meara* 29

Canadian Canned Meat Exports and Imports .... *M. Rachlis* 83
Cheese in Ottawa, Toronto and Vancouver, Consumer Demand for .... *L. E. Drayton* 46
Chicken, Factors Affecting the Grading of .... *G. B. Murray* 39
Comparative Costs of Typical Sequences of Field Operations in Alberta .... *H. K. Scott* 13
Comparison of Sprinkler and Surface Irrigation Costs in Alberta, 1950, A .... *C. A. Fraser* 89
Consumer Demand for Cheese in Ottawa, Toronto and Vancouver .... *L. E. Drayton* 46
Consumer's Expenditures for Food .... *F. M. Schrader* 82
Consumption of Certain Animal Foods in Canada, Per Capita .. *R. Choquette* 35
Co-operatives in Canada, Area Representation on Boards of Directors of Regional .... *J. E. O'Meara* 29
Co-operatives in Newfoundland, 1950, Part I *J. E. O'Meara* and *H. K. Ingersoll* 63
Co-operatives in Newfoundland, Part II .. *J. E. O'Meara* and *H. K. Ingersoll* 77

Economic Aspects of Tractor Use in Ontario and Quebec .... *J. A. Dawson* 60
Economic Situation, The—February 3
—April 27
—June 51
—August 75
—October 99
—December 123
Egg and Poultry Production in British Columbia, 1948-49, Part II .... *R. H. Campbell* 6

Factors Affecting the Grading of Chicken .... *G. B. Murray* 39
FAO Activities in 1951 .... *S. C. Hudson* 21
Farm Appraisal: A Few Methods and Suggestions .... *P. G. Muller* 137
Farming in the Rainy River District of Ontario .... *H. W. Trevor* 108
Farming in the Rainy River and Dryden Districts of Northwest Ontario .... *H. W. Trevor* 140

67535

PAGE
Farm Ownership in Quebec .... *A. Gosselin* 112
Federal Agricultural Programs Affecting Prices of Farm Products, January 1, 1951 to March 1, 1952 42
Flaxseed Production in the Prairie Provinces .... *W. L. Porteous* 10

Hog Populations, Periodic Movements in .... *G. E. Woollam* 55

Irrigation Costs in Alberta, 1950, A Comparison of Sprinkler and Surface .... *C. A. Fraser* 89

Land Classification in Saskatchewan, The Selection of Periods for Use in Calculations of Wheat Yields as a Basis for ...... *J. Zeman* 87

Maple Syrup on Ontario Farms, The Production of ...... *D. J. Packman* 65
Marketing Act, 1949, Agricultural Products 45
Marketing Margins for Canadian Agricultural Products, 1935-1951 .... *F. M. Schrader* 53
Meat Exports and Imports, Canadian Canned .... *M. Rachlis* 83
Mixed Farming in Central Manitoba .... *J. P. Hudson* 37

Newfoundland, 1950, Part I, Co-operatives in *J. E. O'Meara* and *H. K. Ingersoll* 63
Newfoundland, Part II, Co-operatives in.. *J. E. O'Meara* and *H. K. Ingersoll* 77
Nova Scotia Farms, The Strawberry Enterprise on *G. C. Retson* and *V. A. Heighton* 116

Per Capita Consumption of Certain Animal Foods in Canada *R. Choquette* 35
Periodic Movements in Hog Populations .... *G. E. Woollam* 55
Post-war Development of Bushland Farms in Northern Alberta *K. Elgaard* 32
Potatoes in Alberta, 1950, Some Aspects of Wholesale Marketing of *J. A. Parfett* 18
Potato Varieties Grown in Prince Edward Island, Recent Changes in *G. C. Retson* and *E. S. Eaton* 69
Poultry Production in British Columbia, 1948-49, Part II, Egg and *R. H. Campbell* 6
Prairie Provinces, Flaxseed Production in the .... *W. L. Porteous* 10
Prices of Farm Products, January 1, 1951 to March 1, 1952, Federal Agricultural Programs Affecting 42
Production of Maple Syrup on Ontario Farms, The .... *D. J. Packman* 65
Publications of the Economics Division:
  February—*Changes in The Farms of West Central and Northern Saskatchewan, 1942-43 to 1947* by M. E. Andal 24
    —*Co-operative Credit in Saskatchewan* by Jean Larmour and G. P. Boucher 24
    —*Credit Unions in Canada* by J. E. O'Meara 24
    —*Farm Organization in the Creston Area of British Columbia, 1947* by R. C. Blair and E. D. Woodward 24
    —*Federal Agricultural Marketing and Price Legislation, Canada, 1930 to 1950* 24
    —*The Market for Farm Products in the Creston Valley of British Columbia, 1946* by J. C. Maxwell 24
    —*The Marketing of Fruits and Vegetables in the Halifax Trading Area, 1949-50* by J. M. Gray 24
    —*Provincial Agricultural Legislation in Western Canada, 1950* 24
    —*Sprinkler Irrigation in Alberta, 1949* by H. R. Manery 24

PAGE

April—*Changes in Agriculture in Dundas County, Ontario* by J. A. Dawson 48
—*An Economic Classification of Land in the Govenlock-Eastend-Maple Creek Area, Saskatchewan, 1946* by R. A. Stutt 48
—*The Market for Farm Products in the Province of Newfoundland, 1948-50: 1. The Market for Vegetables in St. John's, 1949-50* 48
—*A Study of Apple Production in the Okanagan Valley of British Columbia, 1949* by D. W. Ware, E. D. Woodward, and H. W. Trevor 48
August—*Alberta Farm Land Value and Market Situation* by T. H. Askin 95
—*Farm Practices in Central Saskatchewan* by J. W. Clarke 96
—*Hog Marketing in Grey County, Ontario, April 1950* by T. S. Rackham 95
—*Livestock Marketing in Western Canada* by J. S. Carmichael and T. S. Rackham 96
—*The Market for Farm Products in the Province of Newfoundland, 1948-50: 2. The Market for Dairy Products in St. John's, 1949-50; and 3. The Market for Fruit in St. John's, 1949-50* 96
—*The Poultry Enterprise on Forty-Nine Manitoba Farms, 1948-1949* by O. P. Blaich 96
—*Provincial Agricultural Legislation in the Atlantic Provinces, 1950* 96
—*The Transportation of Milk from Farm to Dairy in a Part of the Montreal Milk-shed* by G. L. Burton 95
October—*Commercial Poultry Farming in Nova Scotia* by G. C. Retson 119
—*Co-operation in Canada, 1951* by J. E. O'Meara 119
—*The Establishment of Economic Farm Units in Northwestern Saskatchewan with Particular Reference to Low-Productivity Land* by M. Ragush 119
—*A Farm Business Study in the Hamiota Area of Manitoba* by T. O. Riecken 120
—*Farm Practices in Central Saskatchewan* by J. W. Clarke 119
—*Federal Agricultural Assistance Programs, Canada, 1900-1951* by M. R. Cameron and F. Shefrin 119
—*Federal Agricultural Legislation in Canada, 1952* 119
—*A Study of the Farm Business in the Carlyle-Moosomin Area of Southeast Saskatchewan, 1948* by G. Haase 119

Publications, Other:
February—*The Case Method and Budget Analysis Technique of Research in Farm Economics* by W. E. Haviland 23
—*Population in Process, Dundas County, Ontario, 1918-1949* by N. H. High and M. B. Blackwood 23
—*Yearbook of International Trade Statistics 1950* (United Nations Report) 23
April—*Demographic Yearbook 1951* (United Nations Report) ... 47
—*Flood Damage and Flood Control Activities in Asia and the Far East* (United Nations Report) 47
—*Measures for International Economic Stability, 1951* (United Nations Report) 48
—*Methods of Labour Productivity Statistics* (United Nations Report) 48
—*Statistical Yearbook 1951* (United Nations Report) 47

PAGE
June—*Equipment for the Processing of Tea* (FAO Report) 72
—*Report of the Council of FAO*—Thirteenth Session 72
—*Report of the Council of FAO*—Fourteenth Session 72
—*Report of the Fifth Session of the International Poplar Session and Proceedings of the Fourth International Poplar Congress* (FAO Report) 72
—*Report of the First Meeting of the Working Party on Fertilizers, Bogor, Indonesia* (FAO Report) 72
—*Report of the Second Meeting of the Working Party on Rice Breeding* (FAO Report) 72
—*Use of the Revolving Capital Plan for Co-operative Associations* (FAO Report) 72
—*World Catalogue on Genetic Stocks—Wheat Supplement No. 1* (FAO Report) 72
—*World Catalogue on Genetic Stocks—Rice Supplement No. 1* (FAO Report) 72
—*World Report on the Production and Consumption of Fertilizers* (FAO Report) 72
October—*Agriculture and Economic Progress* by E. M. Ojala 120
—*Cost and Returns in Growing Cucumbers in Annapolis Valley, 1951* by S. P. Elliott and W. A. Jenkins 120
—*Cost and Returns in Growing Tomatoes, Annapolis Valley, 1951* by S. P. Elliott and W. A. Jenkins 120
—*"Planning Makes the Difference"* by W. A. Jenkins and Alex J. MacDonald 120
—*Poultry Production and Marketing in Saskatchewan* by A. A. Heidt and M. A. Nelson 120

Quebec, Farm Ownership in ....*A. Gosselin* 112

Rainy River District of Ontario, Farming in the ....*H. W. Trevor* 108
Rainy River and Dryden Districts of Northwestern Ontario, Farming in the ....*H. W. Trevor* 140
Recent Changes in Potato Varieties Grown in Prince Edward Island *G. C. Retson and E. S. Eaton* 69
Recent Trends in Canadian Sheep Production ....*J. Mann* 92

Selection of Periods for Use in Calculations of Wheat Yields as a Basis for Land Classification in Saskatchewan, The ....*J. Zeman* 87
Sheep Enterprise on Ontario Farms, The ....*S. C. Hudson* and *J. G. Carson* 101
Sheep Production, Recent Trends in Canadian ....*J. Mann* 92
Some Aspects of Wholesale Marketing of Potatoes in Alberta, 1950 *J. A. Parfett* 18
Soybean Production in Ontario ....*D. J. Packman* 131
Soybeans in Canada, Utilization and Prices of ....*W. L. Porteous* 125
Strawberry Enterprise on Nova Scotia Farms, The *G. C. Retson and V. A. Heighton* 116

Tractor Use in Ontario and Quebec, Economic Aspects of ....*J. A. Dawson* 60

Utilization and Prices of Soybeans in Canada ....*W. L. Porteous* 125

EDMOND CLOUTIER, C.M.G., O.A., D.S.P., Queen's Printer and Controller of Stationery, Ottawa, 1953.

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS

G. P. BOUCHER, Editor

FEBRUARY 1952 Vol. XXII, No. 1

CONTENTS

Page
The Economic Situation 3
Egg and Poultry Production in British Columbia, 1948-49, Part II .... R. H. Campbell 6
Flaxseed Production in the Prairie Provinces ...... W. L. Porteous 10
Comparative Costs of Typical Sequences of Field Operations in Alberta .... H. K. Scott 13
Some Aspects of Wholesale Marketing of Potatoes in Alberta, 1950 .... J. A. Parfett 18
FAO Activities in 1951 .... S. C. Hudson 21
Literature 23
Publications of the Economics Division 24

MARKETING SERVICE, ECONOMICS DIVISION

J. F. BOOTH, Chief

Published by Authority of the Right Honourable James G. Gardiner,
Minister of Agriculture

ANNUAL AND MONTHLY INDEX NUMBERS

Wholesale Prices, Farm Prices and Living Cost Indexes

Year	Wholesale Prices 1935-39=100				Farm Prices of Agricultural Products 1935–39=100 (e)	Commodities and Services used by Farmers 1935-39=100		Cost of Living 1935-39=100	
	(a) General Wholesale Index	(b) Farm Products	(c) Field Products	(d) Animal Products		(f) Equipment & Materials	(g) Eleven Factor Index	(h) Farm Living Costs	(i) Urban Living Costs
1913..........	83·4	....	....	....	....	85·4	....	80·1	79·1
1914..........	85·4	....	....	....	....	90·2	85·3	82·3	79·7
1915..........	91·8	....	....	....	....	96·9	91·6	86·5	80·7
1916..........	109·8	....	....	....	....	101·7	100·5	93·7	87·0
1917..........	148·9	....	....	....	....	140·7	140·5	111·5	102·4
1918..........	166·0	....	....	....	....	164·1	160·2	131·1	115·6
1919..........	174·7	....	....	....	....	169·1	167·9	143·0	126·5
1920..........	203·2	....	....	....	....	190·1	186·5	171·3	145·4
1921..........	143·4	....	....	....	....	147·4	152·5	139·9	129·9
1922..........	126·8	....	....	....	....	124·6	134·1	127·9	120·4
1923..........	127·7	....	....	....	....	118·3	130·6	128·3	120·7
1924..........	129·5	....	....	....	....	122·3	131·9	125·5	118·8
1925..........	133·8	....	....	....	....	123·2	131·8	123·9	119·8
1926..........	130·3	144·4	158·5	130·2	....	119·9	130·6	121·1	121·8
1927..........	127·3	138·6	149·4	127·8	....	119·9	131·2	119·8	119·9
1928..........	125·6	136·3	134·3	138·2	....	118·3	129·3	118·5	120·5
1929..........	124·6	140·8	137·2	144·4	....	117·6	127·9	117·3	121·7
1930..........	112·9	119·5	105·8	133·3	....	105·6	117·0	113·7	120·8
1931..........	94·0	78·9	65·0	92·7	....	92·2	100·9	103·9	109·1
1932..........	86·9	65·5	60·4	70·5	....	89·3	93·3	97·8	99·0
1933..........	87·4	69·3	69·3	69·2	....	88·8	89·8	95·8	94·4
1934..........	93·4	83·5	80·5	86·5	....	96·8	95·5	97·9	95·6
1935..........	94·4	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936..........	96·7	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937..........	107·8	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938..........	102·0	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939..........	99·2	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940..........	108·0	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941..........	116·4	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942..........	123·0	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943..........	127·9	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944..........	130·6	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945..........	132·1	166·4	162·5	170·2	185·7	125·9	152·1	123·2	119·5
1946..........	138·9	179·5	177·9	181·2	204·1	128·0	157·0	127·1	123·6
1947..........	163·3	192·2	184·1	200·2	215·8	139·5	170·4	138·3	135·5
1948..........	193·4	232·1	200·6	263·7	255·8	173·1	197·4	162·8	155·0
1949..........	198·3	228·7	191·9	265·4	255·4	180·3	204·1	173·2	160·8
1950..........	211·2	236·7	191·9	281·4	260·4	189·9	210·4	177·6	166·5
1951									
Feb..........	238·5	262·5	195·5	329·6	284·6	....	....	....	175·2
Mar..........	241·8	273·0	198·8	347·2	293·6	....	....	....	179·7
April..........	242·2	265·4	199·2	331·6	291·6	209·6	232·4	197·1	181·8
May..........	241·9	265·3	194·6	336·1	292·4	....	....	....	182·0
June..........	242·7	272·6	192·0	353·1	300·2	....	....	....	184·1
July..........	244·2	277·1	195·4	358·9	307·2	....	....	....	187·6
Aug..........	241·5	256·4	164·6	348·3	284·8	207·7	236·4	214·7	188·9
Sept..........	240·1	253·9	168·5	339·2	283·9	....	....	....	189·8
Oct..........	239·6	252·6	175·0	330·3	278·9	....	....	....	190·4
Nov..........	239·1	258·4	188·2	328·5	277·3	....	....	....	191·2
Dec..........	237·6	260·2	191·3	329·1	....	....	....	....	191·1
1952									
Jan..........	....	....	....	....	....	....	....	....	191·5

(a) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo.) Ottawa, Monthly.
(b) Ibid (a). Wholesale prices of products of Canadian farms.
(c) Ibid (a). Wholesale prices of grains, hay, tobacco and potatoes.
(d) Ibid (a). Wholesale prices of animals and animal products.
(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo.) Ottawa, Monthly.
(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo.) Ottawa, Jan., Apr. and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.
(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.
(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.
(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

THE ECONOMIC SITUATION

The Agricultural Outlook for Canada in 1952[1].—The year 1952 will likely see a continuation of a strong demand for most Canadian agricultural products. The dominant factor in the economic situation will be the acceleration of defence preparations in the Western World. On the basis of programs now scheduled North American defence outlays will absorb an increasing proportion of national resources.

Canada will continue to develop its new resources and expand its industrial capacity. There will be an intense activity in the capital goods field but aggregate outlays will be limited by the availability of key materials such as structural steel. The intensification of the defence efforts of other Western countries will result in a strong demand for most of Canada's important export items. In many cases, the volume of exports will be limited only by the supplies available. On the other hand, there may be a further curtailment of purchases by certain overseas countries having balance of payments difficulties.

Higher production levels in 1952 will be reflected in the continued growth in personal incomes. Increases in personal incomes, on the other hand, will provide a larger fund for consumer purchases. However, the higher tax rates and credit restrictions, now in effect, will continue to exert a restraining influence on the volume of consumer spending.

Cash income from the sale of farm products is expected to reach a higher level in 1952 principally because a large part of the 1951 grain crop could not be marketed in 1951. Total receipts from other agricultural products are not expected to differ greatly from those of 1951.

Total farm operating expenses are also expected to be higher than in 1951. One important factor in this forecast is the large portion of the 1951 crop to be threshed this spring. According to present indications, the prices of some commodities and services used in agricultural production will be somewhat higher than in 1951. Prices for machinery and fertilizer are following an upward trend and farm wage rates are not likely to decline. However, the supply of important goods and materials, such as machinery and repair parts, fencing materials, fertilizer and pesticides, may not be sufficient to cope with the demand.

The expansion of civilian and defence industries will contribute to the maintenance of high levels of employment in 1952. The large number of job opportunities outside of agriculture will result in difficulties in obtaining farm labour. The decline in the farm labour force is likely to continue although the decline could be restricted, to some extent, by higher wage rates and the improvement of working conditions on farms. It will thus be necessary to use existing labour supplies as effectively as possible and to supplement these supplies by the immigration of farm labour. It is expected that the demand for farm labour will be about the same as in 1951.

It will again be necessary to organize movements of workers between farms and between other industries and agriculture, locally, regionally, and interprovincially. The organization of interprovincial transfers of farm workers is likely to prove more difficult than in previous years. The increasing requirement of mechanical skill in agriculture will complicate the job of recruiting suitable workers.

World wheat import requirements are expected to remain at high levels in 1952. Most of the supplies will have to be drawn from Canada and the United States.

The 1951 Canadian wheat crop was estimated at 562 million bushels. However, a large part of the western crop remained unthreshed and the actual size of the utilizable crop will depend on how well the unthreshed portion of the crop escapes injury from lengthy exposure as well as on conditions for combining and threshing in the affected areas during the winter and spring months of 1952. Adverse weather has caused serious grade losses but these losses are not as serious as with the 1950 crop.

Canada will have a total of 748 million bushels of wheat for disposal during the 1951-52 crop year. Assuming that 150 million bushels will be used at home, some 600 million bushels will be available for export, or for carryover at the end of the crop year. Despite the strong prevailing market, transportation and other difficulties will limit the export movement and it is likely that the total wheat carryover at July 31, 1952 will be above the level of 186 million bushels held in all positions a year previously.

---

[1] Based on statements presented at the annual Federal-Provincial Agricultural Conference held in Ottawa, December 4 and 5, 1951.

Marked increases in the production of major feed grains, along with the large carryover stocks of oats and barley, should result in near-record potential feed grain supplies for the present crop year. Gross supplies available for 1951-52 were estimated at 20·3 million tons, an increase of 33 per cent over the 1950-51 level of 15·3 and only slightly below the record of 20·9 million tons reached in 1942-43. Relative to livestock numbers the net supply of feed grains per grain-consuming unit in 1951-52 is estimated at a record level of one ton. However, adverse harvesting weather, low delivery quotas at most western country points, and the necessity of giving preference to millable wheat in the movement of grain to export positions, have held farm deliveries at relatively low levels.

The anticipated high levels of industrial activity, employment, and personal incomes, in 1952, will result in a continuing strong demand for meat and meat products. Barring unforeseen external influences, however, it is not likely that the heavier supplies of pork in prospect will permit a repetition of the peaks in hog prices attained in 1951. Owing to the abundance of feed supplies, it is expected that marketings of hogs will be about 15 per cent higher between October 1951 and September 1952 than in the corresponding period of 1950-51. Beef supplies and marketings are not expected to differ considerably from those of 1951. Beef prices are expected to follow the pattern of United States beef prices, which means prices at or near the level of 1951. Marketings of sheep and lambs in 1951-52 will show little change from 1950-51. Prices of lamb and mutton will probably continue in their present relationship to prices of other meats. The wool clip in 1951 was estimated at 7·5 million pounds; a slight reduction may occur in 1952. Towards the end of 1951 wool prices had recovered some of the ground lost in the spring of 1951. Prices may rise a little further in 1952 but are not likely to reach the levels of early 1951. In 1952, exports of horses and horsemeat are likely to be about the same as in 1951. But if beef prices remain high there may be some increase in the slaughter of horses for domestic use.

Total production of milk in 1952 will probably be a little lower than in 1951 and may not be much over 16 billion pounds. Prices of most dairy products are not expected to change appreciably from those in effect in the last quarter of 1951.

More poultry will be marketed in Canada during the first half of 1952 than during the corresponding period of 1951. These greater supplies can be attributed partially to an expected increase in fowl marketing. The production and supplies of farm chicken during the latter half of the year will be affected by the market outlook for poultry and eggs during the hatching period from January to June.

Exports of honey from the 1951 crop are expected to be small. This will mean adequate supplies for the domestic market. In 1952 honey production may be at a lower level than the 38·7 million pounds produced in 1951.

The outlook for the producers of flaxseed and soybeans appears relatively favourable. With average yields, the production from approximately a million acres of flax will likely meet domestic requirements and provide some flaxseed for export. A substantial increase in the production of soybeans over 1951 could be readily absorbed by the Canadian market. While rapeseed acreage may be increased slightly, some decline in sunflower seed acreage is likely because of the relatively low yields of recent years.

Consumer demand for manufactured tobacco products should continue strong in 1952. A production of 105 million pounds would appear sufficient for both the export and domestic markets. Domestic demand for burley can be supplied from present stocks and the export market will not likely absorb more than 1·75 million pounds. The demand for cigar leaf in 1952 is not likely to exceed 2 million pounds.

Current Economic Activity.—Production, trade and other business activities are continuing at high rates. There are the usual seasonal adjustments in employment but general economic activity is being maintained at a high level.

Cost-of-Living.—The cost-of-living index declined from 191·2 to 191·1 between November 1 and December 1, 1951 but increased to 191·5 on January 2, 1952. The slight decline in November was the first to occur in 23 months. The food index dropped from 250·2 to 249·3 from November 1 to December 1, 1951 and increased to 250·0 by January 2, 1952. From December 1, 1951 to January 2, 1952 slight changes occurred in the six main group components of the cost-of-living index. There were slight increases in the food, fuel and light, home furnishings and services, and miscellaneous indexes, no change in the rent index, and a very small decline in the clothing index.

Trade—Internal and External.—Department store sales increased from $872,680,000 in 1950 to $901,940,000 in 1951. Sales in December 1951 rose to $119,770,000 from $118,870,000 in December 1950.

Canada's domestic exports to all countries reached an all-time high of $3,914·5 million in 1951, almost 26 per cent above the $3,118·4 million realized in 1950. Total exports during December 1951 amounted to $379·3 million, slightly below the monthly record attained in November but 31 per cent above the value of the December 1950 exports ($289·9 million). The rise in exports to the United States was moderate by comparison with exports to overseas countries but shipments to the United States still constituted almost 59 per cent of all exports as compared with 65 per cent in 1950.

Prices of Agricultural Products.—Farm prices of agricultural products declined in November 1951 for the fourth successive month. The November decline was due to lower prices for livestock, grains, poultry and eggs. These lower prices more than offset the substantially higher prices received for potatoes. For all commodities except grains, however, prices were higher than a year earlier. The November index (1935-39=100) stood at 277·3 as compared with 278·9 for the previous month and 264·0 for November 1950.

Income.—During 1951, Canadian farmers received an all-time high total of $2,819·4 million from the sale of farm products and from grain participation and adjustment payments by the Canadian Wheat Board. This advance preliminary estimate is 26·8 per cent above the 1950 figure of $2,223·5 million and 13 per cent above the previous high of $2,494·8 million realized in 1949. Farmers also received supplementary payments under the provisions of the Prairie Farm Assistance Act. These payments amounted to $10·4 million as compared with $13·8 million in 1950 and $17·6 million in 1949.

The increase in cash farm income in 1951 was due in large part to the substantial grain participation and adjustment payments made by the Canadian Wheat Board, higher average livestock prices and unusually heavy marketings of western grain during the spring months. However, there was a substantial reduction in grain marketings in the latter part of the year as a result of very unfavourable harvesting conditions and limited elevator space at many country points.

Cash income from grains, seeds and hay, including Canadian Wheat Board payments, totalled $509·4 million in 1951 compared with $311·3 million in 1950. Livestock receipts increased from $624·1 million to $737·9 million, and receipts from dairy products from $256·4 million to $287·5 million.

Agricultural Products Board.—The Agricultural Products Board Act, passed by the House of Commons on December 17, 1951, provides for the constitution of an Agricultural Products Board and for payments out of the consolidated revenue fund for the buying, storing, transporting or processing of agricultural products. The Board does not have the power to compel farmers to deliver their produce to it.

Short-term Credit to Grain Producers.—The Prairie Grain Producers' Interim Financing Act, 1951, passed by the House of Commons on December 15, 1951, came into force on January 15, 1952. This Act is designed to provide short-term credit to grain producers in the Prairie Provinces faced with temporary financial difficulties because of their inability to complete harvesting operations or to make delivery of grain.

Individual loans are made up to a maximum of $1,000. Regulations provide that the rate of interest on these loans shall not exceed 5½ per cent per annum simple interest. The loans are guaranteed by the crown but there is a limitation to the effect that the liability of the crown to pay losses will not exceed $5 million.

Foreign Exchange Control Board.—On December 14, 1951 the Minister of Finance informed the House of Commons that the government had "amended the foreign exchange control regulations so as to exempt all classes of transaction covered therein from permit requirements". The general effect of this amendment is that foreign exchange control has been abolished in Canada.

EGG AND POULTRY PRODUCTION IN BRITISH COLUMBIA 1948-1949, PART II

R. H. Campbell

Management and organization of the poultry enterprise are largely responsible for variations in returns received by producers. In British Columbia poultrymen purchase most of their feeds and other goods and services, except labour. They sell all of their eggs and poultry except a small quantity which is consumed by the household. Variations in purchases and sales prices generally correspond in time and size throughout the area of production. It may be assumed that most producers buy and sell under similar market conditions and that their costs and returns are potentially the same. Efficient management and a proper combination of the factors of production involved in the poultry enterprise are required for the maximization of returns.

This article deals with some of the main organization and management factors which affect returns from the poultry enterprise. Family labour income is used as a measure of returns.

Production of Hatching Eggs.—Net returns from the production of hatching eggs were calculated on the assumption that: (1) hatching eggs were sold as market eggs at the prevailing Grade A Large price; (2) breeding cockerels were replaced by layers during the period of hatching egg sales; (3) layers required the same amount of feed as the cockerels they replaced, had the same rate of production as the rest of the laying flock, and were sold at the end of the hatching egg season for the same price as stags. When calculated according to these assumptions, net returns from hatching eggs represent the additional net returns derived from this type of production as compared with the production of market eggs.

The breakdown of receipts and costs is presented in Table 1 along with average net returns for the 34 farms producing hatching eggs for sale. Net returns per dozen hatching eggs averaged 6·8 cents and ranged from minus 21·1 to plus 19·3 cents. The additional income derived from hatching eggs varies directly with the length of the hatching egg season, the quantity of hatching eggs sold and the spread between the prices of market eggs and hatching eggs. The additional costs are mostly fixed costs except for the value of those eggs which are not produced because there are cockerels instead of layers in the pens (Item 7, Table 1). In this case costs vary slightly with the length of the season and the quantity of eggs produced.

Costs of Raising Pullets from Sexed and Mixed Chicks.—On most farms, replacement pullets were raised from sexed chicks. On others, some of the pullets from mixed chicks and the cockerels were sold as broilers or fryers. For purposes of analysis, the income derived from the sale of broilers is considered as a reduction in the cost of raising the pullets. The very few farms on which broiler production was practically a year-round activity were omitted.

Physical requirements and costs involved in raising pullets by each of the two methods are presented in Table 2. The average net cost of raising a pullet was $1.57 with sexed chicks and $1.20 with mixed chicks. The value of the broilers raised was deducted from total costs in both cases. Returns from broilers reduced the net cost of raising a pullet by 37 cents.

Egg Production.—Production was measured by the rate of lay, i.e., the number of eggs laid expressed as a percentage of the total hen-days. This indicates the average number of eggs each 100 layers produced per day during the year, or the number of eggs laid by each layer for each 100 days it was in the laying pen.[1]

---

[1] Production can be expressed in terms of the number of eggs per layer per year by multiplying the rate of lay by 3·65.

Table 1.—Calculation of Average Net Returns from the Production of Hatching Eggs, 34 Farms in the Lower Fraser Valley and Vancouver Island, 1948-49

—	Dollars per Farm	
(1) Cash receipts from 3,114 dozen market eggs[a]	1,320	
(2) Cash receipts from 3,241 dozen hatching eggs	1,940	
(3) Total cash receipts from eggs (1+2)		3,260
(4) Value of hatching eggs at Grade A Large market price	1,411	
(5) Value of all eggs at market price (1+4)		2,731
(6) Additional income from hatching eggs (3−5)		529
(7) Market value of 461 dozen eggs if cockerels were replaced by layers	198	
(8) Net cost of 57 cockerels[b]	84	
(9) Blood testing and banding	27	
(10) Additional costs for hatching eggs (7+8+9)		310
(11) Net returns from hatching eggs (6−10)		219

[a] Only for the months in which hatching eggs were sold.

[b] Cost of the cockerels less cost of the layers to replace them. Average cost of cockerels was $3.37 and of layers $1.89.

The rate of lay for all flocks ranged from 26·1 to 68·3 per cent and averaged 51·6 per cent. It was between 45 and 60 per cent for 78 of the 117 flocks, less than 40 per cent for nine flocks, and more than 65 per cent for five flocks. Production was highest for the group of farms producing only market eggs (54·4 per cent rate of lay), followed by the 17 farms producing broilers and fryers (53·9 per cent), the 22 farms producing hatching eggs (47·2 per cent), and the 12 farms producing hatching eggs, broilers and fryers (45·8 per cent).

In order to eliminate the effects of the production of hatching eggs and of broilers and fryers on family labour income, only the 66 farms producing market eggs exclusively were used in determining the relation of production to family labour income. Family labour income per farm increased as the rate of lay increased except for the farms which had the highest rate of lay. Income per layer, however, showed a consistent increase in relation to increases in rates of lay, but this relationship was much more pronounced for the lower rates.

Feed Requirements.—Information on feed required for the laying flock was obtained for 89 flocks. The average amount of feed consumed per layer per year was 112·1 pounds, and ranged from 90·7 to 139·6 pounds. Forty-nine flocks used from 105 to 120 pounds of feed per layer. The quantities of mash and grain per layer averaged 58·4 pounds and 53·7 pounds, and ranged from 28·0 to 94·5 pounds and 26·4 to 86·9 pounds respectively. From 50 to 70 pounds of mash and 40 to 60 pounds of grain per layer were used by 60 per cent of the flocks. Qantities of both mash and grain increased as the total feed per layer increased, but mash formed a slightly larger percentage of the ration at the lower rates of feeding.

The size of the laying flock had no apparent effect on either the total amount fed per layer or on the proportion of mash and grain in the ration. However, as production increased there was an increase in total feed per layer. The increase in feed was due mainly to an increase in the amount of mash fed, the amount of grain remaining fairly constant as the rate of lay increased.

The amount of feed required to produce a dozen eggs averaged seven pounds, and ranged from 5·5 to 9·2 pounds. For 58 flocks six to eight pounds of feed were used per dozen eggs. The average amount of feed consisted of 3·7 pounds of mash and 3·4 pounds of grain, and ranged from 2·1 to 6·9 pounds and 1·5 to 5·5 pounds respectively. A little over 70 per cent of the flocks used from 3·0 to 4·5 pounds of mash and from 2·5 to 4·5 pounds of grain per dozen eggs.

As total feed increased there was a marked decrease in the rate of lay and a slight increase in total feed per layer. This suggests that the flocks using the least feed per dozen eggs produced more eggs with almost the same amount of feed *per layer* than those using more feed per dozen eggs.

Table 2.—Comparative Costs of Raising 100 Pullets to Laying Age[a] from Sexed and Mixed Chicks, 72 Farms in the Lower Fraser Valley and Vancouver Island, 1948-49

——	Unit	Sexed Chicks	Mixed Chicks
Number of farms		55	17
Sexed chicks purchased	%	100·0	23·6
Mixed chicks purchased	%		76·4
Mortality to laying age[b]	%	12·4	15·5
Broilers raised[b]	%	1·9	37·0
Pullets raised to laying age[b]	%	85·7	47·5
Chicks required to produce 100 pullets—sexed	No.	117	50
mixed	No.		161
Mortality to laying age	No.	15	33
Broilers raised	No.	2	78
Quantity of feed required—grain	lbs.	1,365	1,748
mash	lbs.	1,438	2,593
Total man labour required	hrs.	52·5	72·7
Cost per chick purchased at hatchery	c	32·35	14·18
Cost of grain per 100 pounds	$	3·28	3·32
Cost of mash per 100 pounds	$	4·12	4·05
Direct Costs[c]—			
Chicks	$	37·85	39·00
Oil for brooding	$	5·51	7·41
Feed	$	104·67	163·78
Total direct costs	$	148·03	210·19
Indirect Costs—			
Depreciation on buildings and equipment	$	5·16	6·35
Interest on investment	$	6·16	6·10
Total cost	$	**159·35**	**222·64**
Less income from broilers raised	$	2·42	102·78
Net cost	$	**156·93**	**119·86**
Net cost per pullet	$	1·57	1·20

[a] Approximately five months of age.

[b] Calculated as per cent of the number of chicks started.

[c] Other direct costs comprise litter, medicine and disinfectant. They are omitted from the calculations owing to difficulties involved in allocating these costs between the laying stock and the young stock.

At both low and high levels of feeding the total amount fed per dozen eggs was lower with higher rates of lay. But reduction of feed per dozen eggs is better achieved by maintaining a high rate of lay than by reducing the level of feeding. When the rate of lay increased while the amount of feed per layer remained fairly constant, feed per dozen eggs was reduced by nearly one and one-half pounds. On the other hand, with the rate of lay somewhat constant and a lowered level of feeding, the reduction in feed per dozen eggs was approximately one-half pound.

On the average, the cost of feed for layers represented 62 per cent of the cash expenses and the sale of eggs, 81 per cent of the cash receipts. These figures emphasize the importance of proper feeding. By confining calculations to the flocks producing market eggs only, the influence of hatching egg and broiler production is eliminated and the relation of total feed per dozen eggs to family labour income becomes more apparent. With rates of feeding exceeding seven pounds per dozen eggs, family labour income decreased very sharply. Indeed, income declined from $1,533 for a group of producers feeding from six to seven pounds per dozen eggs to $175 for those feeding eight pounds or more.

Size of Flock.—In determining the size of the average laying flock, the effects of mortality, culling and the addition of layers during the year have to be taken into consideration. The average number of layers may be calculated on a hen-day basis, that is, the number of days each layer was in the flock. According to this method, a layer is the equivalent of 365 hen-days but the average number of layers becomes only a relative figure in the measurement of size. It is probably more correct to speak in terms of "hen years" or "layer years".[1] Measured on this basis, the size of the average laying flock was equivalent to 633 layers for the year and ranged from 95 to 1,780. Of the 117 flocks, 82 had the equivalent of 200 to 800 layers for the year, six had less than 200 and nine more than 1,200.

The average size of flock was 884 for the 22 farms producing hatching eggs, 607 for the 12 farms producing hatching eggs and broilers, 590 layers for the 17 farms producing broilers, and 564 layers for the 66 farms producing market eggs only.

In determining the relation of size of laying flock to family labour income, the effects of the production of hatching eggs and of broilers and fryers were eliminated by restricting calculations to the 66 farms producing market eggs only. An increase in the size of laying flock was accompanied by a larger family labour income per farm and per layer. Rate of production is probably the major determinant of income. In fact, there was a constant increase in family labour income per layer with an increase in rate of lay and size of laying flock. Average family labour income per farm also increased with increases in rate of lay and size of flock, and was considerably higher for the larger than for the smaller flocks.

Culling.—The rate of culling was determined by expressing the *actual* number of layers culled as a percentage of the *average* number of layers in the flock during the year, calculated on a hen-day basis. It averaged 80·6 per cent and ranged from 1·7 to 210·2 per cent for the 117 flocks included in the study. Less than 50 per cent for 36 flocks, it ranged between 50 and 125 per cent for 71 flocks and exceeded 150 per cent for the other 10 flocks. Generally speaking, there was a tendency to heavier culling in May and June when broiler production was part of the poultry enterprise.

No apparent relationship existed between the rate of culling and the size of the laying flock, production, and mortality. However, the average price received per cull increased as the rate of culling increased.

Mortality.—The rate of mortality was calculated the same way as the rate of culling, that is, the actual number of layers that died during the year was expressed as a percentage of the average number of layers for the year.

The rate of mortality ranged from 3·9 to 45·7 per cent and averaged 19·3 per cent for the 117 farms. It was less than 10 per cent for 15 farms and more than 30 per cent for 11 farms.

Labour Requirements.—The total annual labour required for the poultry enterprise averaged 2,246 hours per farm. Of this total, 1,805 hours were contributed by the operator, 351 hours by other members of the family, and 90 by hired help.

---

[1] Calculated on this basis, the "layer" measure is similar in principle to the "man equivalent" measure.

The total labour required varied with the type of organization. The total per farm averaged 2,388 hours for farms producing broilers, 2,378 hours for those producing hatching eggs, 2,217 hours for those producing both hatching eggs and broilers, and 2,170 hours for those producing only market eggs.

For the different types of poultry enterprise, family labour income per hour of labour was as follows: 58 cents on farms producing hatching eggs and broilers, 55 cents on farms producing broilers, 54 cents on farms producing hatching eggs, and 52 cents for farms producing only market eggs. The average for all farms was 53 cents.

Considering only the laying flock, hours of labour per layer averaged 2·9, and ranged from 1·0 to 7·1. From two to four hours per layer were required on 86 of the farms and more than five hours on only 10 farms.

Although more labour was required for the larger flocks, hours of labour per layer decreased as the size of the laying flock increased. This reduction was due to size and various factors associated with size, such as better designing and location of buildings and the use of labour-saving equipment.

Hours of labour spent on the laying flock averaged about 1,852 per farm per year. Most of this labour was supplied by the operator and his family, the operator accounting for 78·6 per cent and the other members of the family for 16·7 per cent of total labour. Hired help contributed the remaining 4·7 per cent, but less than one per cent with flocks of less than 900 layers. As the size of flock increased up to 900 layers, more labour was supplied by the operator and his family but as a percentage of total labour, the operator's labour decreased and unpaid family labour increased. For flocks with more than 900 layers, operator's labour increased but unpaid family labour decreased both in total and on a percentage basis, being replaced in part by an increase in hired labour.

Labour Returns.—Labour returns measure the total returns to all types of labour used on the poultry enterprise during a year. For the 117 farms average labour returns amounted to $1,265 per farm and ranged from minus $208 to $4,222.

In order to eliminate any effect that the production of hatching eggs and broilers might have on returns from the poultry enterprise, the group of 66 farms producing only market eggs was used to indicate the variations in labour returns according to size of flocks. Higher labour returns per farm and per layer were associated with larger laying flocks.

FLAXSEED PRODUCTION IN THE PRAIRIE PROVINCES

W. L. Porteous

The attractive look of a well-painted building or the inviting atmosphere of a gleaming linoleum floor owe something to flaxseed produced in the Prairie Provinces. A major component of paint and of linoleum is linseed oil which is extracted from flaxseed. Even the residue, linseed oil cake or meal, may find its way to the home by way of a high grade roast of meat. Linseed oil cake or meal is favoured by stockmen as a valuable source of concentrated protein to balance livestock rations.

Flaxseed growing in Canada dates back to at least 1720 when historical documents show that 54,650 pounds of flaxseed were produced in New France. By 1864 some was being produced in Ontario and by 1875 it was introduced into the Prairie Provinces.[1] By 1908, the acreage had increased to 139 thousand acres in these provinces. Since that time, most of the flaxseed produced in Canada has been produced in this region.

Areas of Flaxseed Production.—From a rather modest beginning, flaxseed acreage increased rapidly in the Prairie Provinces and, by 1912, two million acres were seeded to the crop. Land-hungry settlers who rushed in from other sections of

---

[1] W. C. McGregor, *The Production of Flaxseed in Canada.* Canada Dept. of Agriculture, Farmers' bul. No. 23, Pub. 545. 1946.

Canada, Europe and the United States found that flax grew and yielded well on the newly-broken prairie. Saskatchewan became the most important producing province and seeded, on the average, 1·2 million acres a year during the five-year period 1910-14; Alberta averaged 91 thousand and Manitoba 62 thousand acres a year during the same period.

Although the total acreage of flaxseed varied from year to year and a marked decline in acreage took place from about 1925 to 1939, there was no significant shift in production areas within the Prairie Provinces. After 1920 Saskatchewan was the main producer and was followed by Manitoba and Alberta. This was the pattern until 1948 when the acreage of flaxseed in Manitoba exceeded that in Saskatchewan.

For the five-year period, 1947-51, the acreage averaged 509 thousand acres in Manitoba, compared with 392 thousand in Saskatchewan and 140 thousand in Alberta. This illustrates the shifts in production areas during the last five years. The flaxseed belt extended itself from the Rosetown-Regina area into southeastern Saskatchewan and Manitoba. Flaxseed is now grown over a wide area of Manitoba with some concentration in the southwestern corner of the Province.

The timing of the shift in the location and the growing areas paralleled the introduction and the increased use of chemical weed control practices in the Prairie Provinces. Flaxseed finds it difficult to compete with weeds but more success can now be obtained by the use of chemical sprays. It may be assumed that one of the main results of the use of these chemical sprays is the considerable increase in land suitable for flaxseed production in Manitoba. Previously, most of this land was considered too weedy for the successful growing of flaxseed.

Successful weed control enables Manitoba to derive greater benefits from its physical and other natural advantages as a flaxseed producer. Better moisture conditions favour higher yields and provide an inducement to increase the acreage in flaxseed. Grasshoppers, cutworms, and other insects do not constitute quite as serious a problem as in Saskatchewan. Frost hazards are less serious in Manitoba but rust hazards are markedly greater than in Saskatchewan.

Physical factors appear to be the main determinants of the shifts in flaxseed growing areas while economic factors play only a secondary role. The year-to-year variability in the value of an acre of flaxseed is as great in Manitoba as in Saskatchewan.[1] The gross value of an acre of flaxseed in relation to wheat has not been noticeably different in Manitoba than in Saskatchewan except possibly for the 1947 crop year. During that year the gross value of an acre of flaxseed in Manitoba averaged $49.26, which was $21.37 more than for an acre of wheat. In Saskatchewan, however, the difference was only $11.49 per acre. The more favourable situation in Manitoba may have stimulated a continuing interest in the flaxseed business in that province. Another reason for this increased interest resides in the fact that some flaxseed straw is processed in Winnipeg. As a result, what was formerly a waste product has now become a source of additional income.

Inter-crop Competition.—Competition prevails at the farm level as well as on an area basis. Flaxseed is a crop which must compete with or complement the other crops and enterprises on the individual farms where it is grown. In the past, farmers' opinions on the relative merits of flaxseed and alternate crops have led to some violent fluctuations in flaxseed acreage. For example, the acreage sown to flax in the Prairie Provinces increased from 572 thousand acres in 1910 to 1·3 million acres the following year while it decreased from 1·4 million acres in 1920 to 517 thousand acres in 1921. This type of fluctuation has also been evident in more recent years. From 1·5 million acres in 1942 the acreage sown to flax rose to 2·9 million acres in 1943 and then decreased to 1·3 million acres in 1944.

Although there are marked variations in acreage from year to year, there is evidence of a cyclical pattern in the Prairie Provinces. Indeed, there have been seven distinct cycles since the first peak was established in 1912. The average length of each cycle is about six years but cycles have ranged from four to eight years and the five- and seven-year cycles have been the most common.

Flaxseed growing has many of the characteristics of the "in-and-out" types of farm enterprises. This may be due to many factors but the most basic one appears to be the profit motive. As indicated previously, the acreage in flaxseed in the Prairie Provinces increased from 517 thousand to 1·3 million acres from 1910 to 1911. In 1910 the average value of an acre of flaxseed, at the farm, was $15.33 compared with $10.92 for an acre of wheat. There was, thus, a difference of $4.41 in favour of flaxseed and this was enough to induce the farmers to grow more of that crop in the following year. A reverse situation occurred in 1920 and 1921 when the flaxseed acreage was reduced from 1·4 million acres in 1920 to 517 thousand acres in 1921. The reduction in acreage had come about as a result of a differential of $11.62 in favour of wheat.

---

[1] The coefficient of variation of the per acre value of flaxseed for the period 1910-49 was 57 per cent for Manitoba compared with 55 per cent for Saskatchewan. This is somewhat higher than the variation in the per acre value of wheat for all three Prairie Provinces, which was 44 per cent for the same period.

Peaks and hollows of the seven cycles of flaxseed acreage follow, with marked consistency, the peaks or hollows established in the previous year for the gross value of an acre of flaxseed, in relation to the value of an acre of wheat. This, however, does not provide a completely satisfactory rule for the explanation of fluctuations in flaxseed acreage. With the sole use of this rule one would have to assume that all decisions regarding flaxseed acreage are based on results of the past season. In practice, however, one must take account of the actual organization of the farm and of the difficulties involved in making changes in the cropping program when suitable land is not available for a different crop. Account must also be taken of such factors as conditions at time of seeding, possible insect or other crop hazards, and labour requirements.

During World War II and the years immediately following, governmental policies had a direct influence on flaxseed production. In 1943 farmers were encouraged to reduce their wheat acreage and devote part of that acreage to the growing of flaxseed. In 1947, a forward pricing system assured the grower of higher returns for flaxseed than for wheat. Lower initial prices for flaxseed in 1949 than in 1948 contributed to the drop from 1·9 million to 332 thousand, in acres sown to flaxseed from 1948 to 1949. Returns, however, were better than had been anticipated by the growers. After the 1949 crop all flaxseed has been sold on the open market.

Production of Flaxseed in Relation to Utilization.—Canada has been a net exporter of flax since 1908 except for ten years during the period from 1929 to 1940. Net exports have varied from 18 million to 100 thousand bushels. Domestic utilization of flaxseed since 1922 has varied from a low of 1·8 million during 1933-34 to a high of 8·5 million bushels during 1945-46.

During the thirties flaxseed production in the Prairie Provinces reached its lowest levels. Domestic utilization was also at a low level during this period. The low production is mainly attributable to a severe decline in yields. As a result the value of flax, on a per acre basis, was maintained at levels consistently below the corresponding levels for wheat. Production, in fact, declined to such an extent that it was even insufficient to meet the unusually low domestic demand which prevailed during that period. Yields, however, increased considerably during the next ten years.

The ratio of flaxseed prices to wheat prices has shown an upward trend throughout the entire period 1908-1951. If this trend continues into the future and yields of flaxseed maintain their present relationship with wheat yields, indications are that the Prairie Provinces will, generally, provide an ample supply of flaxseed for domestic utilization. Significant year to year variations in flaxseed acreage, however, are likely to continue. Prices paid for flaxseed are very sensitive to changes in levels of industrial activity and general price levels. If farmers continue to plan their flaxseed business in strict accordance with price relationships in the previous season there will probably be a recurrence of situations in which some farmers are a year late in either reducing or increasing their flaxseed acreage.

On January 26 The Right Hon. C. D. Howe, Minister of Trade and Commerce, announced an increase of 20 cents per bushel in the initial price of Western wheat. This increase boosts the Canadian Wheat Board's initial price to producers to $1.60 a bushel, basis No. 1 Northern wheat in store at Fort William/Port Arthur and Vancouver, effective February 1, 1952.

COMPARATIVE COSTS OF TYPICAL SEQUENCES OF FIELD OPERATIONS IN ALBERTA

H. K. Scott

Thoughtful planning of field operations will result in appreciable economies in the use of labour, power and machinery. Lower costs of operation, on the other hand, will mean higher net returns to the farmer for his various crops.

Very little information is available concerning costs pertaining to various practices or sequences involved in field operations. An attempt to fill this gap, however, was made in an economic study of farm power and machinery conducted in Alberta, in 1950. The study included 59 farms in the brown soil zone, 43 in the dark brown, 59 in the shallow black, and 42 in the black soil zone.

The dryland of the brown soil zone is used mainly for ranching and wheat production, and the larger wheat farms of the province are found in that zone. The dark brown soil zone is a transition between the brown and the shallow black zones; wheat is the main crop but farms are generally smaller than in the brown soil zone.

There is more diversification in the shallow black soil zone although wheat is also the principal crop. More livestock is kept and farms are smaller than in the brown and dark brown soil zones. The black soil zone has the smallest farms and mixed crop-livestock farming is more popular in this zone than in the other three.

Comparative Costs of Various Sequences of Field Operations

As part of the general inquiry into costs involved in the use of farm power and machinery, information was obtained relating to the comparative costs of typical sequences followed in field operations. Types of farming and farming practices vary with different zones. The sequence of field operations also varies with operators as well as with types of farming or soil zones. For convenience in presenting the data, however, the analysis will be conducted on a zone basis.

The Brown Soil Zone.—Owing to lower rainfall and a smaller weed growth, less summerfallow operations are required in the brown than in the other soil zones. Table 1 illustrates three sequences of summerfallow operations, prevailing in this zone. Machinery used in the construction of the table belongs to the type used with the 3-4 plow tractor, the most common size of tractor in the area. Figures on number of acres covered per hour, tractor cost per acre, and cost of operating the machines per acre are derived from the data obtained during the survey. Cost figures, however, do not include any charge for the operator's labour.

Table 1.—Typical Sequences of Summerfallow Operations, Time Required and Costs, Brown Soil Zone, 1950

Operations (machines used)	Acres per Hour	Cost of Operation per Acre	Cost of Tractor per Acre	Total Cost per Acre
		—dollars—		
Sequence A				
One-way (8½ ft.)	3·4	0·14	0·40	0·54
One-way (8½ ft.)	3·4	0·14	0·40	0·54
Blade weeder (11 ft.)	4·2	0·10	0·32	0·42
Total				1·50
Sequence B				
One-way (8½ ft.)	3·4	0·14	0·40	0·54
Blade weeder (11 ft.)	4·2	0·10	0·32	0·42
Blade weeder (11 ft.)	4·2	0·10	0·32	0·42
Total				1·38
Sequence C				
One-way (8½ ft.)	3·4	0·14	0·40	0·54
Blade weeder (11 ft.)	4·2	0·10	0·32	0·42
Rod weeder (24 ft.)	7·6	0·07	0·19	0·26
Rod weeder (24 ft.)	7·6	0·07	0·19	0·26
Total				1·48

Table 2.—Typical Sequences of Tilling and Harvesting Operations, Time Required and Costs, Brown Soil Zone, 1950

Operations (machines used)	Acres per Hour	Cost of Operation per Acre	Cost of Tractor per Acre	Total Cost per Acre
		—dollars—		
Sequence A				
Tiller and packer (8½ ft.)	3·4	0·18	0·40	0·58
Combine A.M. (16 ft.)	4·3	1·17	0·32	1·49
Total				**2·07**
Sequence B				
Single disc (21 ft.)	6·0	0·16	0·23	0·39
Press drill (14 ft.)	5·2	0·24	0·27	0·51
Combine S.P. (14 ft.)	4·2	1·20		1·20
Total				**2·10**

Variations are also evident in field operations other than summerfallow. Table 2 presents figures on costs and time requirements for tilling and harvesting operations, according to two methods or sequences typical of the brown soil zone. Work is also performed with the 3-4 plow tractor. The auxiliary motored combine is used in sequence A and the self-propelled combine in sequence B. Both types of combines are popular in the area. Differences in costs between the two types of combines have some significance. Costs for the auxiliary motored combine are a little higher owing to larger fixed costs per acre as a result of the limited number of hours of use of that type of combine, as compared with other types.

The Dark Brown Soil Zone.—Lack of moisture is the main factor limiting plant growth in the dark brown soil zone. This zone, however, enjoys a slightly higher annual precipitation and is less subject to droughts than the brown soil zone. The cropped land is generally sowed to wheat and most farms are smaller than in the brown soil zone.

The sequences followed in conducting field operations vary considerably. For purposes of analysis, however, only some of the most typical sequences will be considered. Here again the 3-4 plow is the most common size of tractor.

Two types of sequence are described in Table 3. Total costs per acre are 26 cents higher in sequence B than in sequence A. In the former sequence the one-way is used only once, which tends to reduce costs but this is more than offset by the fact that the cultivator is used three times instead of once as in sequence A.

Table 3.—Typical Sequences of Summerfallow Operations, Time Required and Costs, Dark Brown Soil Zone, 1950

Operations (machines used)	Acres per Hour	Cost of Operation per Acre	Cost of Tractor per Acre	Total Cost per Acre
		—dollars—		
Sequence A				
One-way (8½ ft.)	3·4	0·14	0·40	0·54
One-way (8½ ft.)	3·4	0·14	0·40	0·54
Cultivator (12 ft.)	4·4	0·09	0·30	0·40
Total				**1·48**
Sequence B				
One-way (8½ ft.)	3·4	0·14	0·40	0·54
Cultivator (12 ft.)	4·4	0·09	0·31	0·40
Cultivator (12 ft.)	4·4	0·09	0·31	0·40
Cultivator (12 ft.)	4·4	0·09	0·31	0·40
Total				**1·74**

Table 4.—Typical Sequences of Seeding Operations on Summerfallowed and on Stubble Land, Time Required and Costs, Dark Brown Soil Zone, 1950

Operations (machines used)	Acres per Hour	Cost of Operation per Acre	Cost of Tractor per Acre	Total Cost per Acre
		—dollars—		
Summerfallow				
Sequence A				
Tiller (8½ ft.)	3·4	0·14	0·40	0·54
Total				**0·54**
Summerfallow				
Sequence B				
Harrow (24 ft.)	9·5	0·03	0·14	0·17
Drill (14 ft.)	5·1	0·17	0·23	0·40
Total				**0·57**
Stubble Land				
Double disc (10 ft.)	3·4	0·14	0·40	0·54
Harrow (24 ft.)	9·5	0·03	0·14	0·17
Drill (14 ft.)	5·1	0·17	0·23	0·40
Total				**1·11**

In the dark brown soil zone sequences followed in seeding operations vary according to operators' preferences, availability of machinery, weather conditions, cropping practices, and other factors. As a rule farmers only seed land which was in summerfallow the preceding year. However, sowing part of the crop on stubble from the previous year is not an uncommon practice. This latter practice involves more work in the preparation of the seed bed and costs are consequently higher. Table 4 is a summary of the time required and costs involved with two typical sequences of seeding operations on summerfallow land, and one typical sequence on stubble land. It will be noted that total costs per acre for the last sequence are about twice as high as those for the other two sequences.

The Shallow Black Soil Zone.—This zone benefits from a more abundant annual precipitation and a more luxuriant vegetation than the two brown soil zones. Cropping practices are more diversified but, as in the brown soil zones, wheat is

Table 5.—Typical Sequences of Summerfallow Operations, Time Required and Costs, Shallow Black Soil Zone, 1950

Operations (machines used)	Acres per Hour	Cost of Operation per Acre	Cost of Tractor per Acre	Total Cost per Acre
		—dollars—		
Sequence A				
One-way (6 ft.)	2·0	0·23	0·57	0·80
Harrow (21 ft.)	7·2	0·02	0·16	0·18
One-way (6 ft.)	2·0	0·23	0·57	0·80
Harrow (21 ft.)	7·2	0·02	0·16	0·18
Cultivator (10 ft.)	3·7	0·12	0·32	0·44
Total				**2·40**
Sequence B				
Plow (3-bottom)	1·2	0·61	0·93	1·54
Cultivator (10 ft.)	3·7	0·12	0·32	0·44
Cultivator (10 ft.)	3·7	0·12	0·32	0·44
Harrow (21 ft.)	7·2	0·02	0·16	0·18
Total				**2·60**

Table 6.—Typical Sequences of Seeding Operations on Summerfallowed and Stubble Land, Shallow Black Soil Zone, 1950

Operations (machines used)	Acres per Hour	Cost of Operation per Acre	Cost of Tractor per Acre	Total Cost per Acre
		—dollars—		
Summerfallow				
Harrow (21 ft.)	7·2	0·02	0·16	0·18
Drill (14 ft.)	5·1	0·17	0·23	0·40
Harrow (21 ft.)	7·2	0·02	0·16	0·18
Total				**0·76**
Stubble				
One-way (6 ft.)	2·0	0·23	0·57	0·80
Drill (14 ft.)	5·1	0·17	0·23	0·40
Harrow (21 ft.)	7·2	0·02	0·16	0·18
Total				**1·38**

the main crop, while livestock is a more important enterprise than in the other two zones. And, the average farm is smaller in crop and total acreage than in these other zones.

The moisture supply is satisfactory but assists the growth of weeds as well as that of other plants. The weed problem entails an increase in tillage operations and a parallel increase in costs. But these costs are well offset by crop yields which are generally higher than in the brown and dark brown soil zones.

Two typical sequences of summerfallow operations, in the shallow black soil zone, are illustrated in Table 5. These two sequences are radically different but the difference in total cost per acre is small.

In this soil zone, crops are generally sown on summerfallowed land although the practice of sowing on land cropped in the preceding year is more common than in the two brown soil zones. Comparative figures on time required and costs involved for seeding operations on summerfallowed and stubble land, are presented in Table 6. A one-way is used in place of a harrow in sequence B with the result that total cost per acre amounts to $1.38 as compared with $0.76 in sequence A.

Table 7.—Typical Sequences of Summerfallow Operations, Time Required and Costs, Black Soil Zone, 1950

Operations (machines used)	Acres per Hour	Cost of Operation per Acre	Cost of Tractor per Acre	Total Cost per Acre
		—dollars—		
Sequence A				
One-way (6 ft.)	2·0	0·23	0·57	0·80
Harrow (21 ft.)	7·2	0·02	0·16	0·18
One-way (6 ft.)	2·0	0·23	0·57	0·80
Cultivator (10 ft.)	3·7	0·12	0·32	0·44
Cultivator (10 ft.)	3·7	0·12	0·32	0·44
Total				**2·66**
Sequence B				
Plow (3-bottom)	1·2	0·61	0·93	1·54
Harrow (21 ft.)	7·2	0·02	0·16	0·18
One-way (6 ft.)	2·0	0·23	0·57	0·80
Harrow (21 ft.)	7·2	0·02	0·16	0·18
Total				**2·70**

Table 8.—Typical Sequences of Seeding Operations on Summerfallowed and Stubble Land, Time Required and Costs, Black Soil Zone, 1950

Operations (machines used)	Acres per Hour	Cost of Operation per Acre	Cost of Tractor per Acre	Total Cost per Acre
		—dollars—		
Summerfallow				
Tiller (6 ft.)	2·0	0·23	0·57	0·80
Harrow (21 ft.)	7·2	0·02	0·16	0·18
Total				0·98
Stubble				
One-way (6 ft.)	2·0	0·23	0·57	0·80
Harrow (21 ft.)	7·2	0·02	0·16	0·18
Drill (14 ft.)	5·1	0·17	0·23	0·40
Total				1·38

The Black Soil Zone.—The most fertile soils of Alberta are in the black soil zone. Annual precipitation there is higher than in any other settled part of the province. Mixed crop-livestock farming is the predominant type of farming. Farms are smaller, both as to crop and total acreage. And deeper cultivation than in other soil zones is a general practice in the black soil zone.

Two different types of sequence followed in this zone are analyzed in Table 7. Although there are important differences in types of operations or machines used in these two typical sequences, costs per acre are about the same.

A larger portion of the crops is grown on stubble than on land summerfallowed the preceding year. An analysis of typical sequences and operations followed on summerfallowed and stubble land is presented in Table 8. On stubble land, a one-way is used before and a drill after harrowing while on summerfallowed land a tiller is used before harrowing and this is the last field operation at seeding time. As a result, costs per acre are $1.38 on stubble land and only $0.98 on summerfallowed land.

Conclusion.—Sequences followed in field operations vary from soil zone to soil zone. Comparisons of costs between various zones, however, are made difficult by the fact that other cropping practices also differ among farms and soil zones. For example, the ratio of land in summerfallow to land in crops, in the various zones, is as follows: 1:1·06 in the brown soil zone, 1:1·9 in the dark brown soil zone, 1:2·0 in the shallow black soil zone and 1:2·63 in the black soil zone. When the costs of summerfallowing are apportioned in the manner suggested by these ratios, a comparison of the costs for summerfallowing and for seeding and cultivating, can be made. A summary of the computation of those costs is presented in Table 9. The data show a considerable variation in costs between zones. They also indicate that the greater the proportion of land in crops, the higher the average costs per acre of seeding and cultivating.

Table 9.—Comparative Costs of Summerfallow and Spring Work in the Four Main Soil Zones of Alberta, 1950

Operations	Soil Zone			
	Brown	Dark Brown	Shallow Black	Black
	—dollars per crop acre—			
Summerfallowing	1.37	0·84	1·25	1·02
Spring work (seeding and cultivating)	0·74	0·98	1·07	1·27
Total	2·11	1·82	2·32	2·29

A similar relationship might be expected when the proportion of land in crops is related to total costs. Summerfallowing costs in the dark brown soil zone, however, are much lower than in other zones and corresponding costs in the black soil zone are significantly lower than in the other two zones, with the result that no well-marked relationship is apparent.

This analysis was confined to the cost aspects of the problem. One must also be mindful, however, of other important aspects such as effects of types and sequences of field operations on crop yields, conservation of soil fertility, and net returns to the operator. But this does not detract from the fact that the reduction and the proper distribution of costs among farm operations are of primary concern to the farm operator.

SOME ASPECTS OF WHOLESALE MARKETING OF POTATOES IN ALBERTA, 1950

J. A. Parfett

Potatoes are a bulky and perishable product, adaptable to a wide range of soil and climatic conditions. The highly competitive character of the potato crops and the wide variations in quality and yields create special marketing problems.

Main Types of Producers.—A description of the various types of farmers engaged in the production of potatoes is a prerequisite to an examination of the marketing problem. In 1946, there were 26,300 acres in potatoes in Alberta; 55,447 of the 89,541 Alberta farms were producing that crop.[1] But producers differ with regard to the volume and the quality of their production. There are actually three main types of producers, generally referred to as:

(1) Surplus producers, or farmers primarily interested in supplying their own family requirements. With favourable weather conditions yields are generally high, farm family requirements are exceeded, and these farmers send their surplus potatoes to the market. If supplies are already plentiful on the market, a surplus is likely to develop on the market itself.

(2) Certified seed growers, or growers who produce quality stock for the commercial producers. In 1951, there were 59 of these growers and 727 acres were passed for seed potato certification.

(3) Commercial growers. There are only about 1,000 of these growers but they control more than one-third of the total acreage. They are concentrated in the irrigated areas of southern Alberta, with the exception of about 220 farmers growing potatoes on 2,000 acres of dry land in the Edmonton area. Permits to market potatoes are granted under the provincial Agricultural Pests Act, 1942. In 1950, the 1,061 potato growers who obtained marketing permits had 12,208 acres in potatoes.

Producer-Wholesaler Relations.—Information on the role of wholesale firms in the marketing of the 1949 potato crop was obtained from commercial potato producers, through a survey conducted by the Economics Division during the summer of 1950. Following that survey, interviews were arranged with all licensed wholesale potato dealers in Alberta. Wholesalers prefer to purchase potatoes on a cash basis and to make payments on the day of delivery. Owing to variations in quality, and uncertainties regarding demand, wholesalers refrain from entering into contracts for future delivery. They prefer to do business with large-scale commercial growers who follow rigid grading practices. Not all commercial growers sell their potatoes through wholesale firms. Nevertheless, these firms enjoy a dominating position in the marketing field, owing to the character of the services which they provide and, in particular, to their storage, grading, packaging and distributing facilities.

Some growers sell their potatoes directly to the consumers but these growers are generally market gardeners or small-scale growers. The normal movement of potatoes is from the producer, through the wholesaler, to independent, department, or chain retail stores.

Wholesale Marketing.—In this article, information on the wholesale marketing of potatoes is confined to the marketing of the 1950 potato crop. This information was collected in 1951 through the medium of a survey of the operations of 27 whole-

---

[1] Canada. *Census of the Pairie Provinces*, 1946. Ottawa, The King's Printer, 1949.

Table 1.—Net Sales of 1950 Potatoes in Five Market Areas of Alberta, by 27 Wholesale Firms

Market Area	California Early[a]	British Columbia Early	Alberta Early	British Columbia Late	Alberta Late	Certified Seed	Total
	—carlots—						
Calgary	97	24	78	....	387	11	597
Medicine Hat	6	....	5	....	12	4	27
Lethbridge	25	12	8	....	184	9	238
Brooks	....	....	....	....	5	....	5
Edmonton	67	47	29	1	317	6	467
Total	**195**	**83**	**120**	**1**	**905**	**30**	**1,334**

[a] A California carlot equals 360 cwt.; others equal 450 cwt. each.

sale establishments, engaged in the marketing of potatoes in five main market areas of the province. These wholesale firms are located in Edmonton, Calgary, Lethbridge, Brooks, and Medicine Hat.

These firms sold a net total of 1,987 cars of imported and Alberta potatoes, grown in 1950. Most of these potatoes were sold in Alberta but some found their way into British Columbia, Saskatchewan and Manitoba. Table 1 presents a summary of the net sales of 1950 potatoes in Alberta, by the 27 wholesale firms. Potatoes consisted of Alberta potatoes and of early potatoes from the United States and British Columbia and were purchased by retailers and institutional buyers. Sales within the province were twice the size of sales outside the province. Most of the exports went to Saskatchewan and British Columbia and comprised 653 carlots. Local sales accounted for 1,334 carlots and 1,025 of these carlots were made up of early and late Alberta potatoes.

Early California potatoes arrived in Alberta during the first week of May, 1950. Sales reached a peak in July when the Alberta carryover was declining in quality, and imports of 1949 late potatoes from Eastern Canada were declining both in quality and volume. After July 15, British Columbia early potatoes were being shipped to Alberta in direct competition with the California crop. A tariff duty of 37·5 cents per hundredweight on American imports, effective from June 15 to July 30, and a shorter rail haul, give the British Columbia potato growers an advantage on the Alberta market. The lateness of the local 1950 crop of early potatoes was partly responsible for the substantial sales of British Columbia 1950 potatoes (Table 1). Alberta early potatoes do not generally reach the wholesale market before the latter part of July when their arrival acts as a check on imports from British Columbia. Local early varieties are sold through wholesale channels until the beginning of the harvest of late Netted Gems, in early September.

Wholesalers estimate that they sold 1,522 carlots of early and late Alberta potatoes from the 1950 crop (Table 2). Lethbridge and Calgary are the main wholesale centres and they ship a large volume of potatoes to other provinces. The average

Table 2.—Wholesale Net Sales of Alberta Early and Late Potatoes, 1950 Crop

Area Served	Local Sales		Shipped to						Total Local and Export	
			Saskatchewan		British Columbia		Manitoba, Ontario and Montana			
	Earlies	Lates	Earlies	Lates	Earlies	Lates	Earlies	Lates	Earlies	Lates
	—carlots—									
Calgary	78	387	....	145	....	1	....	17	78	550
Medicine Hat	5	12	12	24	....	....	....	....	17	36
Lethbridge	8	184	....	110	19	228	....	15	27	537
Brooks	....	5	5	70	....	....	....	....	5	75
Edmonton	29	317	....	7	....	....	....	....	29	324
Total	**120**	**905**	**17**	**356**	**19**	**229**	....	**32**	**156**	**1,522**

annual number of inspected carlots sent from Alberta between the crop years 1934-35 and 1950-51 was 204. Average annual exports, during the same period,[1] were 105 carlots to Saskatchewan, 40 each to British Columbia and Manitoba, and six carlots to Ontario. In 1950-51, 452 inspected carlots were sold in other provinces, as compared to a high of 579 carlots in 1947-48.

Commercial Production.—In 1950, most of the potatoes sold through wholesale markets came from districts designated as pest control areas under the provincial Agricultural Pests Act, 1942. The acreage under disease control permits for commercial potato production in 1950, was as follows:

Brooks district	2,517 acres
Calgary district	378 "
Lethbridge-Vauxhall-Medicine Hat district	6,948 "
Edmonton district	2,365 "
Total commercial acreage	12,208 acres

Estimates[2] place the total 1950 crop of commercial potatoes at 1,098,720 cwt. for the Province of Alberta. And the 27 wholesale purchasers estimate that they handled about 784,900 cwt. or about 71 per cent of that crop. In the irrigated areas, about 200,000 cwt.[3] of the commercial crop were fed to livestock or went to waste in the spring of 1951. Only 10 per cent of the crop remains to be accounted for, which indicates the relative unimportance of direct sales to retailers and institutions by commercial growers.

Table 3.—Prepackaging of Netted Gems in Five Market Centres of Alberta, 1950

Area	Total Cars	100 Pound Bags		50 Pound Bags		25 Pound Bags		10 Pound Bags		5 Pound Bags	
		Cars	Per Cent	Cars	Per Cent	Cars	Per Cent	Cars	Per Cent	Cars	Per Cent
Calgary	387	83·2	21·5	13·4	3·5	18·6	4·8	271·7	70·2	......	......
Medicine Hat	12	2·6	21·7	0·6	5·0	......	......	8·8	73·3	......	......
Lethbridge	184	126·8	60·0	2·0	1·1	3·0	1·6	52·2	28·4	......	......
Brooks	5	2·5	50·0	......	......	......	......	2·5	50·0	......	......
Edmonton	317	183·4	64·3	1·0	0·4	0·5	0·2	94·4	33·1	5·8	2·0
Total	**905**	**398·6**	**45·7**	**17·0**	**2·0**	**22·1**	**2·5**	**429·6**	**49·2**	**5·8**	**0·7**

All wholesale firms own or rent storage facilities. In the winter potatoes are placed in cold storage, and in the early summer a limited amount of refrigerator storage assures the provision of an adequate supply of good quality potatoes from the late Gems carryover.

Most wholesalers claim that it is not necessary to provide central storage facilities for more than one or two weeks' supplies. The trend is now toward the building of large drive-in root cellars on the farms. So, wholesalers make special arrangements with the growers in order to maintain an adequate flow of potatoes from the farms to the wholesale establishments.

Continuity of Supply.—One of the most important functions performed by wholesalers is the maintenance of a continuous supply to retail outlets and ultimate consumers. They collect and store the potatoes, and regulate their flow to the consumers.

Carlot handlings tend to decline sharply during August but more slowly from then on until spring. Between the harvesting season and the end of the year, the major part of the local consumption requirements is filled by local surplus producers who sell their potatoes directly, either to retailers or consumers. Competition among these small-scale growers and lack of storage facilities tend to have a depressing effect on potato prices until the beginning of the following year.

---

[1] Canada Dept. of Agriculture, Fruit and Vegetable Div., Marketing Service. *Potato Crop Summaries.* Ottawa. Annual.

[2] Canada. Dept. of Trade and Commerce, Dominion Bureau of Statistics. *Quarterly Bulletin of Agricultural Statistics.* Ottawa. January-March, 1951.

[3] Estimated by provincial District Agriculturists and potato inspectors of the Fruit and Vegetable Division of the Department of Agriculture in the irrigation areas of Alberta.

Grading.—Seventeen of the 27 wholesale establishments maintain grading facilities. Potatoes are graded on the basis of quality and size. Most growers prepare a Canada No. 2 product at the farm and sack the potatoes in 100-pound bags.

Retail demand for potatoes packaged in 5, 10, 25, and 50-pound paper bags creates a problem at the wholesale level. Wholesalers have to prepack the potatoes but the grade requirements for prepackaged potatoes are somewhat higher than Canada No. 2. As a result graders have to be used to regrade to Canada No. 1.

Prepacking.—Data collected during the 1950 survey indicate that of 905 cars of late Netted Gems sold within the province, 55 per cent were prepacked in 50-pound, 25-pound, 10-pound and 5-pound paper and cellophane bags. Of the 475 carlots of prepackaged potatoes, 430 carlots were packed in 10-pound bags. For the 475 carlots, 62 per cent of the prepacking was done at the wholesale level and 38 per cent on the farms.

Only six growers did any prepacking but most wholesalers claimed that more could be done on the farms. The 10-pound bags have become popular in recent years and wholesalers agree that their popularity is likely to increase, provided consumer incomes remain high. Edmonton and Lethbridge wholesalers are still selling a large percentage of their potatoes in 100-pound bags, but they expect that prepackaging will increase in popularity. Figures presented in Table 3 give an indication of the extent of prepacking practices in the five main market areas of Alberta.

Wholesaler Problems.—Many wholesalers complained that potato marketing is an unreliable source of income. Markets are uncertain from year to year, especially the outside markets of British Columbia, Saskatchewan, and Manitoba, and wholesalers are thus prevented from entering into definite contracts with producers. A strong demand from outside markets may often coincide with small and low-quality supplies in the province. In any case, wholesalers agreed that potato growers must be well aware of the needs and preferences of the consumers. Education of the growers on matters pertaining to consumer demand is a primary requisite of a smoothly operating marketing organization.

FAO ACTIVITIES IN 1951

S. C. Hudson[1]

The sixth session of the Conference of FAO was held at the Organization's new headquarters in Rome, Italy, November 19 to December 6, 1951. In addition to reviewing the accomplishments of the Organization during 1951, the Conference had the task of charting the course to be followed by FAO until its next biennial conference in 1953, and of considering its proposed program of work for 1952 and 1953. The Chairman of the Conference was the Honourable A. Fanfani, Minister of Agriculture for Italy, while Dr. G. S. H. Barton, who, as Canada's representative has been closely associated with FAO since its inception at the Hot Springs meeting in 1943, was elected as first Vice-Chairman of the Conference.

The Conference extended its membership to include Argentina, Japan, Laos, and Nepal, and accepted the resignation of Hungary and Nationalist China, thus bringing its membership to 68 nations.

Mr. Norris E. Dodd, who has filled the post of Director-General of FAO for the past three years, was elected to this post for a further term of two years. Viscount Bruce of Melbourne, who had filled the post of independent chairman of the FAO Council since its establishment in 1947, retired from this office and was replaced by Professor Josue de Castro, of Brazil.

Elections were held to fill all of the 18 seats on the Council. Brazil, Canada, Chile, Italy, the Union of South Africa and the United States of America were elected for the period 1952-53, and Australia, Finland, Egypt, France, India and Cuba for the period 1952-54. The Netherlands, Philippines, Pakistan, the United Kingdom, Colombia and Spain were elected to take office in December 1952 for the period 1953-55.

---

[1] Secretary of the Interdepartmental FAO Committee and Member of the Canadian Delegation to the Sixth FAO Conference held at Rome, Italy, November 19 to December 6, 1951.

In accordance with a recommendation of the Working Party on the Program of Work and Associated Long-Term Problems, a co-ordinating committee of seven members, to be selected on the basis of personal qualifications, was established to tender advice on the co-ordination of the undertakings of FAO, and to advise the Director-General with regard to these matters. The co-ordinating Committee which was appointed by the FAO Council at the conclusion of the Sixth Session of the Conference consisted of Mr. F. W. Bulcock (Australia), Dr. G. S. H. Barton (Canada), Professor Andre Mayer (France), Dr. P. V. Cardon (United States), Sardar Datar Singh (India), Mohammed Ali El Kilaney Bey (Egypt) and Mr. Frank Grant (United Kingdom).

Canada was re-elected to the Committee on Commodity Problems, which consists of 14 member governments. Mr. A. B. Hockin of the Department of Finance, a member of the Canadian Delegation, was elected a member of the Committee on Finance and Control.

The Work of FAO in 1951.—FAO carries out four major kinds of activities:

1. It serves as a world extension or advisory agency mobilizing modern scientific knowledge for increased production, improved handling and processing, and better distribution of food and other farm, forest and fisheries products. Much of this work is concerned with the economic development of under-developed areas;
2. It serves as a forum for bringing governments together for organizing international action;
3. It provides all governments to the limits of its facilities with information on facts and figures relating to food, agriculture, forestry, fisheries and nutrition;
4. It endeavours to appraise the outlook for production and consumption and the likely development of international trade in food and agricultural commodities.

Fundamentally, the idea underlying the creation of FAO, as developed at the Hot Springs Conference in 1943, was to unite nations for a war against hunger, as a necessary step towards building a peaceful, prosperous world. As one of the specialized agencies of the United Nations, FAO has been called upon to play an important role in this world-wide movement, under the Expanded Technical Assistance Programme. With its headquarters serving as "a general staff", FAO has mobilized an army of experts who have been engaged in front line combat with the problems standing in the way of increased food production in the under-developed areas of the world. As of December 1, 1951, basic agreements have been signed with 48 countries, and 378 scientific and professional workers have been recruited from 32 countries. For each project an agreement is signed between FAO and the recipient country whereby FAO pays the salary of the expert and his travelling expenses to and from the country he is serving; the government concerned pays for his subsistence and travelling expenses within the country and provides such office space or clerical assistance as may be required. Projects cover a wide range of activities in agriculture, fisheries, forestry and nutrition. The fields of activity which have accounted for the greater part of the expenditure are national program building and preparatory missions; land and water utilization, conservation and development; crop improvement and protection and livestock improvement and disease control. This work is described in the Report of the Director General, "The Work of FAO 1950-51". Examples of accomplishments include the program for the control of rinderpest, which is the number one killer of cattle in the world; the land and water development programs being launched in Pakistan and other countries; the control of losses of grain in storage, particularly in Latin America; and the improvement in fisheries production in Haiti and other countries. Since Canada has been an important contributor to funds made available for this program and since technical experts involved in this work have included such eminent Canadians as Dr. E. S. Archibald, Dr. L. E. Kirk, Dr. D. B. Finn, Dr. H. E. Gray, Mr. C. B. Davidson, Professor H. A. Hardy and Dr. T. J. Harrison, Canadians generally can share in the satisfaction of a job well done.

Another phase of technical assistance work carried on by FAO is the granting of fellowships and scholarships for study abroad. These fellowships are tied in with specific development programs already under way. By the end of 1951 agreements had been signed whereby FAO would provide over 200 fellowships and scholarships.

The World Food Situation.—It is estimated that the aggregate production of the principal food crops in both 1951 and 1952 will be slightly above that of 1949-50 and about nine per cent above that for the pre-war period 1934-38. Since 1936 the estimated world population has increased by about thirteen per cent. As a result, current supplies per capita were even below the unsatisfactory pre-war levels. Moreover, the increase in production which has occurred has not been uniform between the various regions. Although a substantial increase above pre-war levels occurred in certain areas, particularly in the surplus-producing regions, production in many countries in Europe and the Far East was still below pre-war. Consequently those people who were well nourished at that time now have as much or more food than before, and those who were hungry then are even hungrier now. The situation, therefore, means a continued and an even greater dependence on the hard currency countries of the Western Hemisphere as a source of supply for many foods.

Improving Food and Agricultural Production.—The Conference was gravely concerned by the fact that food production in large areas of the world is not keeping pace with the growth of population. As a means of improving this situation it was agreed that the following policies should be adopted:

(a) The adoption by member countries of forward agricultural development plans suited to their own circumstances and conditions, having as an objective a balanced increase of at least one to two per cent per year in world production of basic food and other essential agricultural products in excess of the rate of population growth in the next five years;
(b) The establishment of adequate extension and educational programs to insure that the technical knowledge necessary to achieve increased production is conveyed to the farmer;
(c) The reform of agrarian structure; in many countries the uneconomic size of farms, fragmentation of holdings, maldistribution of landed property, excessive rents, inequitable systems of taxation, insecurity of tenure, perpetual indebtedness or the lack of clear title to land and water have impeded the improvement of agricultural production;
(d) The provision of adequate capital for agricultural development through national and international efforts.

The Conference gave special consideration to the above points in approving the program of work for the technical divisions of FAO for 1952 and 1953. In order to implement this program the Director-General was authorized to increase his budget from 5 to 5·25 million dollars.

International Commodity Problems.—Having in mind that expansion of agricultural production can be achieved only if technical and other measures for increasing production are accompanied by assurances enabling farmers to dispose of their products in secure and stable markets at reasonable prices, it was agreed that the committee on commodity problems should continue to function and consider measures for improving conditions for the marketing of agricultural commodities, both nationally and internationally. Cognizance was also taken of the problem of regional food shortage and famine, and the role which FAO should play in such an emergency. The Council was instructed to study and explore suitable ways and means whereby emergency food reserves could be established and made available promptly to member states threatened or suffering from serious food shortages or famine.

LITERATURE

Population in Process, Dundas County, Ontario, 1918-1949. *High, N. H. and M. B. Blackwood.* Processed bul. Dept. of Agricultural Economics, Ontario Agricultural College, in co-operation with the Economics Div. Guelph, Ont. 1951.

The authors present the findings of a study of social changes affecting selected farm operators and their descendants, from 1918 to 1949 in Dundas County, Ontario.

The Case Method and Budget Analysis Technique of Research in Farm Economics. *Haviland, W. E.* Nuffield College, Oxford Univ., England. Agr. Econ. Reference Paper No. 1, distributed by the Economics Div. Ottawa. October 1951.

The author describes the case method and budget analysis technique propounded by John D. Black and his associates at Harvard University.

Yearbook of International Trade Statistics 1950. Prepared by the Statistical Office of the United Nations, Department of Economic Affairs, New York. (In Canada: The Ryerson Press, Toronto.) 1951. pp. 174.

This first issue of the United Nations *Yearbook of International Trade Statistics* is a continuation of "International Trade Statistics" published by the League of Nations from 1933 through 1939.

PUBLICATIONS OF THE ECONOMICS DIVISION

Federal Agricultural Marketing and Price Legislation, Canada, 1930 to 1950. Processed pub. Ottawa. November 1950.

This publication is a reference paper outlining the types of federal marketing and price legislation in Canada, and the degree of activity occurring under each of the various Acts concerned.

Co-operative Credit in Saskatchewan. *Larmour, Jean and G. P. Boucher.* Processed pub. Research and Statistical Services, Dept. of Co-operation and Co-operative Development. Prov. of Saskatchewan in co-operation with the Economics Div. Regina, Sask. February 1951.

This study provides a description of credit facilities in the Province of Saskatchewan and presents an economic analysis of the operations of credit unions and of the Saskatchewan Co-operative Credit Society.

Sprinkler Irrigation in Alberta, 1949. *Manery, H. R.* Processed pub. Ottawa. March 1951.

This report discusses and analyzes the costs and the efficiency factors involved in the operation of sprinkler irrigation systems in Alberta.

The Market for Farm Products in the Creston Valley of British Columbia, 1946. *Maxwell, J. C.* Processed pub. Economics Div. in co-operation with the Dept. of Agricultural Economics of the Univ. of British Columbia. Ottawa. April 1951.

This report deals with the production, distribution and consumption of various agricultural commodities in the Creston Valley of British Columbia. It provides a detailed analysis of the market for farm produce in the Creston Valley and a separate analysis of the market for the produce of the same valley.

Farm Organization in the Creston Area of British Columbia, 1947. *Blair, R. C. and E. D. Woodward.* Processed pub. Economics Div. in co-operation with the Dept. of Agricultural Economics of the Univ. of British Columbia. Ottawa. May 1951.

This study gives a description of land utilization and the nature of capital investment, and provides an analysis of the various factors pertaining to the farm business in the Creston area of British Columbia.

Provincial Agricultural Legislation in Western Canada, 1950. Processed pub. Ottawa. June 1951.

This reference paper presents an outline of provincial agricultural legislation in Canada. All the Acts pertaining to agriculture are listed whether they be administered by departments of agriculture or other departments.

Credit Unions in Canada. *O'Meara, J. E.* Processed report. Ottawa. August 1951.

This statistical report presents figures and other information relating to growth, lending operations, and bonds of association of credit unions in Canada, for the year 1950, as well as comparative statistics for the 1945-50 period, a credit union balance sheet for 1950, and a review of the role and number of central credit unions existing in 1950.

Changes in the Farms of West Central and Northern Saskatchewan. 1942-43 to 1947. *Andal, M. E.* Processed pub. Ottawa. September 1951.

This report deals with the changes in the farms and farmers' incomes in west central and northern Saskatchewan during the five-year period ending in 1947. The report is a complement to the Saskatchewan part of *Changes in Farm Family Living in Three Areas of the Prairie Provinces, 1942-43 to 1947* by MacNaughton, M.A. and M. E. Andal. (Pub. No. 815 of the Canada Dept. of Agriculture).

The Marketing of Fruits and Vegetables in the Halifax Trading Area, 1949-50. *Gray, J. M.* Processed report. Economics Div. in co-operation with the Nova Scotia Dept. of Agriculture and Marketing. Ottawa. September 1951.

The main objectives of this study are to provide information on the quantities, values and prices of fresh fruits and vegetables marketed in the Halifax trading area. Particular consideration is given to the importance of Nova Scotia produce. The author emphasizes the following five aspects of the problem: (1) the total consumption of fruits and vegetables in the area; (2) the volume supplied from Nova Scotia sources, particularly the Annapolis Valley; (3) the relative importance of the principal distributing agencies; (4) the prices paid and the seasons during which local supplies reached the market, and (5) the competition between Nova Scotia and other produce.

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS
G. P. BOUCHER, Editor

APRIL 1952 Vol. XXII, No. 2

CONTENTS

Page
The Economic Situation 27
Area Representation on Boards of Directors of Regional Co-operatives in Canada .... *J. E. O'Meara* 29
Post-war Development of Bushland Farms in Northern Alberta .... *K. Elgaard* 32
Per Capita Consumption of Certain Animal Foods in Canada .... *R. Choquette* 35
Mixed Farming in Central Manitoba .... *J. P. Hudson* 37
Factors Affecting the Grading of Chicken .... *G. B. Murray* 39
Federal Agricultural Programs Affecting Prices of Farm Products, January 1, 1951 to March 1, 1952 42
Agricultural Products Marketing Act, 1949 45
Consumer Demand for Cheese in Ottawa, Toronto and Vancouver .... *L. E. Drayton* 46
United Nations Publications 47
Publications of the Economics Division 48

MARKETING SERVICE, ECONOMICS DIVISION
J. F. BOOTH, Chief

Published by Authority of the Right Honourable James G. Gardiner, Minister of Agriculture

51922—1

ANNUAL AND MONTHLY INDEX NUMBERS

Wholesale Prices, Farm Prices and Living Cost Indexes

Year	Wholesale Prices 1935-39 = 100				Farm Prices of Agricultural Products 1935–39 = 100	Commodities and Services used by Farmers 1935-39 = 100		Cost of Living 1935-39 = 100	
	(a) General Wholesale Index	(b) Farm Products	(c) Field Products	(d) Animal Products	(e)	(f) Equipment & Materials	(g) Eleven Factor Index	(h) Farm Living Costs	(i) Urban Living Costs
1913	83·4	...	...	...	...	85·4	...	80·1	79·1
1914	85·4	...	...	...	...	90·2	85·3	82·3	79·7
1915	91·8	...	...	...	...	96·9	91·6	86·5	80·7
1916	109·8	...	...	...	...	101·7	100·5	93·7	87·0
1917	148·9	...	...	...	...	140·7	140·5	111·5	102·4
1918	166·0	...	...	...	...	164·1	160·2	131·1	115·6
1919	174·7	...	...	...	...	169·1	167·9	143·0	126·5
1920	203·2	...	...	...	...	190·1	186·5	171·3	145·4
1921	143·4	...	...	...	...	147·4	152·5	139·9	129·9
1922	126·8	...	...	...	...	124·6	134·1	127·9	120·4
1923	127·7	...	...	...	...	118·3	130·6	128·3	120·7
1924	129·5	...	...	...	...	122·3	131·9	125·5	118·8
1925	133·8	...	...	...	...	123·2	131·8	123·9	119·8
1926	130·3	144·4	158·5	130·2	...	119·9	130·6	121·1	121·8
1927	127·3	138·6	149·4	127·8	...	119·9	131·2	119·8	119·9
1928	125·6	136·3	134·3	138·2	...	118·3	129·3	118·5	120·5
1929	124·6	140·8	137·2	144·4	...	117·6	127·9	117·3	121·7
1930	112·9	119·5	105·8	133·3	...	105·6	117·0	113·7	120·8
1931	94·0	78·9	65·0	92·7	...	92·2	100·9	103·9	109·1
1932	86·9	65·5	60·4	70·5	...	89·3	93·3	97·8	99·0
1933	87·4	69·3	69·3	69·2	...	88·8	89·8	95·8	94·4
1934	93·4	83·5	80·5	86·5	...	96·8	95·5	97·9	95·6
1935	94·4	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	96·7	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	107·8	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·0	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	99·2	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	108·0	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	116·4	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	123·0	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	127·9	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	130·6	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	132·1	166·4	162·5	170·2	185·7	125·9	152·1	123·2	119·5
1946	138·9	179·5	177·9	181·2	204·1	128·0	157·0	127·1	123·6
1947	163·3	192·2	184·1	200·2	215·8	139·5	170·4	138·3	135·5
1948	193·4	232·1	200·6	263·7	255·8	173·1	197·4	162·8	155·0
1949	198·3	228·7	191·9	265·4	255·4	180·3	204·1	173·2	160·8
1950	211·2	236·7	191·9	281·4	260·8	189·9	210·4	177·6	166·5
1951	240·1	265·1	193·4	336·9	291·5	206·0	229·9	217·4	184·5
1951									
April	242·2	265·4	199·2	331·6	292·1	209·4	233·8	219·1	181·8
May	241·9	265·3	194·6	336·1	292·9	...	...	...	182·0
June	242·7	272·6	192·0	353·1	300·7	...	...	...	184·1
July	244·2	277·1	195·4	358·9	307·7	...	...	...	187·6
Aug.	241·5	263·3	178·3	348·3	294·3	207·5	237·7	228·5	188·9
Sept.	240·1	260·5	181·7	339·2	293·2	...	...	...	189·8
Oct.	239·6	259·3	188·1	330·3	288·7	...	...	...	190·4
Nov.	239·1	264·9	201·4	328·5	287·7	...	...	...	191·2
Dec.	237·6	266·8	204·4	329·1	287·3	...	...	...	191·1
1952									
Jan.	236·8	263·1	208·0	318·2	284·0	218·1	236·5	228·3	191·5
Feb.	232.6	251·2	205·1	297·3	272.4	...	...	...	190·8
Mar.	...	247·6	...	...	...	...	...	...	189.1

(a) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo.) Ottawa, Monthly.
(b) Ibid (a). Wholesale prices of products of Canadian farms.
(c) Ibid (a). Wholesale prices of grains, hay, tobacco and potatoes.
(d) Ibid (a). Wholesale prices of animals and animal products.
(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo.) Ottawa, Monthly.
(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo.) Ottawa, Jan., Apr. and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.
(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.
(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.
(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

THE ECONOMIC SITUATION

The first quarter of 1952 was characterized by consumer resistance and excessive inventories. Levels of production were following a downward trend and there was an increasing number of people working a shorter work week. However, the general economic situation is likely to improve during the second quarter of the year with the increase in construction and maintenance activity. An indication of the strength of the national economy can be found in the steady increase in the value of the Canadian dollar which, in recent weeks, has closely approximated and even exceeded parity with the United States dollar.

Factory shipments of Canadian-made motor vehicles climbed to an all-time peak in 1951 and were about six per cent above the previous high established in 1950. Substantial gains realized in the first five months of the year more than offset the declines which occurred in the last seven months.

Factory shipments continued to decline in January and February 1952.

Department stores sales totalled $60,-220,000 in January 1952 as compared with $58,296,000 in February 1951, an increase of three per cent.

Railway revenue freight loadings totalled 78,941 cars during the seven days ended March 21, 1952 as compared with 77,337 cars in the preceding week. Cumulative loadings to March 21 amounted to 880,795 cars.

Value of cheques cashed against individual accounts rose ten per cent from February 1951 to February 1952. The cumulative total for the first two months of 1952 advanced ten per cent and thus reached a peak for that period.

Cost of Living.—The official cost-of-living index declined from 190·8 to 189·1 between February 1 and March 1, 1952, the third decline in the last four months. The index had reached its lowest level since September 1951.

Population.—Final tabulations of the Census returns indicate that Canada's population at June 1, 1951 was 14,009,429 for the ten provinces and two territories. This total represents an increase of 2,502,774—21·8 per cent—over the 1941 total (11,506,655). Newfoundland's entry into Confederation accounts for 361,416. Excluding Newfoundland, the total is 13,648,013, an increase of 2,141,358 or 18·6 per cent over the 1941 total for the nine provinces and the territories.

Employment.—Employment in the major non-agricultural industries was seasonally lower at the beginning of February than a month earlier but higher than in February 1951. The general index number of industrial employment (base 1935-39=100) stood at 177·9 as compared with 181·0 for January 1, and 172·3 for February 1, 1951. Weekly wages and salaries averaged $52.94 as compared with $50.42 in January and $47.87 in February 1951.

Export Trade.—Canada's domestic exports to all countries in February totalled $309,700,000, as compared with $233,900,000 in February 1951, an increase of 32 per cent. The cumulative value for the first two months of the year stood at $633,400,000, an increase of 22 per cent over the corresponding period of 1951.

Exports to the United States totalled $168,779,000, as compared with $152,428,-000 in February 1951 and accounted for 54·5 per cent of total exports as compared with 65·1 per cent in February 1951. Shipments to the United Kingdom rose in value from $33,585,000 to $43,561,000.

Prices.—The general index number of wholesale prices moved downward in February 1952 for the seventh successive month. The index (base 1935-39=100) declined to 232·6 from 236·8 in January and 238·5 in February 1951.

The index for Canadian farm product prices at terminal markets declined to 251·2 from 263·1 in January 1952 and 262·5 in February 1951. The index number for animal products declined to 264·8 from 294·5 in February 1951 and the index for vegetable products to 218·2 from 219·0.

Farm Wages.—Average wages of male farm help at mid-January 1952 exceeded those of January 1951 in all parts of Canada. The all-Canada average wage per day, with board, was $4.60 or 50 cents above the average at January 15, 1951 and the rate per month, with board, was $86.00, an increase of $11.00. The average, without board, increased to $5.70 from $5.10 per day and to $121.00 from $110.00 per month.

Barley Prices.—Following an announcement made on February 27 by the Right Hon. C. D. Howe, Minister of Trade and Commerce, a twenty-cent-a-bushel increase in the initial price paid to western barley farmers became effective March 1. The increased price applies to all barley deliveries made to the Canadian Wheat Board since August 1, 1951, and will be effective until the end of the crop year on July 31. The initial payment for No. 3 Canada Western Six-Row Barley will thus increase from 96 cents to $1.16 per bushel, and the initial payment on No. 1 Feed Barley from 87 cents to $1.07 per bushel, basis in store Fort William/Port Arthur. An adjustment payment will be made on barley delivered to the Board between August 1951 and February 29, 1952.

Wool.—Wool production in Canada dropped from 9,531,000 pounds in 1950 to 8,653,000 pounds in 1951, the lowest recorded level. The decline was the result of an all-time low in sheep numbers. Shorn-wool production decreased to 7,471,000 pounds from 7,904,000 in 1950 as a result of a smaller number of sheep shorn and a fractionally lower weight per fleece. The amount of pulled wool declined from 1,627,000 to 1,182,000 pounds.

Exports of wool totalled 2,656,000 pounds as compared with 4,328,000 in 1950 and imports amounted to 69,012,000 pounds as compared with 82,241,000 in 1950.

Price Support for Hogs.—The Agricultural Prices Support Board has been authorized to provide price support for hogs on the basis of $26.00 per hundred pounds, warm dressed weight, Grade A carcasses at public stockyards at Toronto and Montreal. Appropriate price differentials are to be established at the principal public stockyards throughout Canada. This measure will be effective from February 11, to September 30, 1952.

Butter.—On March 1, 1952, the Right Honourable J. G. Gardiner, Minister of Agriculture, announced that the Agricultural Products Board had been authorized to begin distribution of Government-owned stocks of butter. The authorization became effective on March 3.

The method of distribution is similar to that followed in previous years. Butter is to be sold in original carlots on a regraded basis and imported butter on original grade, delivered to the city or town in which the purchaser's place of business is located. The price is 66 cents per pound, First Grade, in New Brunswick, Nova Scotia, Prince Edward Island, Quebec and Ontario, and 65 cents per pound in British Columbia.

Handling of Tough Grain.—Records of the Canadian Wheat Board indicate that on March 10 about 186 million bushels of tough and damp wheat, oats and barley had been accepted at country elevators compared with 100 million bushels in the preceding crop year.

Considerable progress had been made in disposing of tough wheat, oats and barley. About 50 million bushels of tough and damp grain had been dried in terminal elevators and damp wheat was being shipped to the United States for drying. According to the Board's estimates, deliveries of out-of-condition grain will total at least 250 million bushels.

Foot-and-Mouth Disease.—In late February 1952 Canada's $2 billion livestock industry witnessed a serious outbreak of foot-and-mouth disease in the vicinity of Regina in Saskatchewan. Immediately after the official announcement of the outbreak, the United States government clamped an embargo on Canadian live cattle, sheep and swine, and fresh chilled or frozen meat from these animals and a ninety-day quarantine on hay and straw at port of entry. The placing of this embargo is mandatory under United States law.

Canada's government outlined a program designed to eradicate the disease and assist farmers who had infected herds. The main points of the program include: 1) the slaughter of infected animals and contacts; 2) the establishment of quarantine and buffer zones; 3) compensation payments under the Animals Contagious Diseases Act. These payments are made to farmers for all animals, equipment and feed destroyed in the eradication campaign; and 4) an embargo on imfortation of livestock and meats from the United States and other countries.

The restrictions imposed by the Canadian and United States governments represent a concerned and determined effort to check the disease and eradicate it as quickly as possible.

AREA REPRESENTATION ON BOARDS OF DIRECTORS OF REGIONAL CO-OPERATIVES IN CANADA

J. E. O'Meara

Many comparisons have been made between co-operative and other business methods and principles. One obvious difference, however, has not received sufficient emphasis. An examination of the constitution of boards of directors in co-operatives, especially those serving large geographical areas or with a very large membership, will reveal the nature of this difference.

When farmers set up a co-operative organization to purchase supplies or market their products, they usually have to come to grips with some unfamiliar problems. One of these problems pertains to the direction and control of a business organization. To do this properly, a board of directors must be *chosen* and elected. The duties and responsibilities of the directors are usually specified in the act of incorporation.

This act, however, does not indicate that a director's job involves something more than the direction and control of the organization. A director is elected at a meeting at which individuals—not shares—have voting power. In the case of a local co-operative, directors are chosen from an usually small membership, and community relationships are important. But when the co-operative grows, a problem arises as to how representative of the membership the board should be. This is likely to develop into an acute problem in regional co-operatives or specialized marketing co-operatives spreading out over a large area. Members then wish to have their respective districts or regions represented on the board of directors.

When a co-operative specializes in the marketing of a single commodity its expansion usually depends, in considerable part, on its power to attract producers from wide and often widely scattered areas. The geographical area served by the association also becomes larger and larger; but, as it becomes larger there is an increasing insistence on the part of members in outlying areas that their interests be appropriately represented on the board of directors. Because of the limited area it usually serves, it is not likely that a local purchasing co-operative will ever have to face such a problem. But, purchasing co-operatives are always confronted with this problem when they federate and organize a wholesale central purchasing organization.

Co-operatives have met this problem in several ways. In a recent survey made by the Economics Division it was found that of 16 large regional co-operatives—centralized or federated—only four had not adopted some system of area representation on their boards of directors. Some, like the *wheat pools,* have had such a system for many years while the *Alberta Co-operative Wholesale Association* and others adopted area representation only a year or two ago.

On the other hand, one of the larger and older co-operative wholesales, *United Co-operatives of Ontario,* was still without a plan for area representation at the end of 1951. Three others had not adopted such a plan because of special local circumstances. In Prince Edward Island, for example, such a plan is regarded as unnecessary because of the smallness of the area served by the regional co-operative. In British Columbia certain legislative restrictions prevent area representation. In one case, in that province, directors are usually elected from areas close to the head office because expenses involved in holding director's meetings can then be kept at a minimum.

In the Maritime Provinces, *Maritime Co-operative Services* at Moncton and *Cape Breton Co-operative Services* at Sydney both have devised methods of ensuring that their local societies are represented on the board by regions. Both these co-operatives are primarily purchasing wholesales and are made up of local societies scattered throughout New Brunswick and Nova Scotia. They have divided their areas into zones or sections and delegates from the local societies meet at annual meetings of the central organization and elect directors to represent these specified zones or sections. In this way each zone or section has its own representative on the central board of directors.

In Quebec, where the *Coopérative Fédérée de Québec* serves the whole province with close to 500 local societies as members, the province is divided into districts and each district elects a director to the board. Mention has already been made of Ontario where *United Co-operatives* is still without a system of area representation on its board.

In the western provinces, the three great Canadian wheat pools have for many years used a system of dividing their areas into districts and sub-districts. With their very large individual membership it would, of course, be impossible to hold an annual meeting at which all producers would be adequately represented without some system of this kind. Accordingly, they have divided their areas into districts and sub-districts and a very complicated, yet very democratic, method of election of delegates is carried out. The delegates from each district then elect their director at the annual meeting of the pool.

The wheat pools' method of choosing delegates and electing directors has exerted a considerable influence in other large co-operatives in the western provinces. For example, in Manitoba all the co-operatives visited during the study divided the province into the same number of districts as the wheat pool. In Saskatchewan, the *Saskatchewan Federated Co-operatives* uses a method of dividing the province into districts and sub-districts much the same as the *Saskatchewan Wheat Pool.* In Alberta, the *Alberta Co-operative Wholesale Association* has also divided its area into districts.

Throughout the country there is little uniformity in the way a co-operative area is divided in order to determine the size and extent of its various districts. There are, of course, differences between the centralized and federated types, but even within these types there are differences. For example, the *Saskatchewan Wheat Pool* and the *Alberta Wheat Pool* are typical examples of large regional co-operatives with direct membership but there are differences in the bases on which each province is divided. In Saskatchewan, the districts are based primarily on the number of members, with secondary consideration being given to acreage and production of wheat in the area. In Alberta, too, prime consideration is given to the number of members but account is also taken of the amount of reserves held by the members, the acreage represented, natural barriers such as rivers and mountains, the highways and railways that may serve as dividing lines. The *Alberta Seed Growers Co-operative* has over 8,000 members and is a centralized organization with direct membership. In 1951, this co-operative changed its method of election and divided the province according to the volume of seed produced, value of the seed, geographical factors and number of members. The *Northern Alberta Dairy Pool* bases the division of its area on the number of members and the total number of pounds of butterfat produced by members.

The federated-type co-operatives all support the principle of area division but do not agree on the basic methods to be followed in the actual division of an area. Delegates to their annual meetings are usually representative of the amount of business done by the local purchasing co-operative with the central organization but it does not always mean that each district sends an equal number of delegates. In the Maritimes, for example, the zones are established according to the number of co-operatives in an area but more consideration is given to geography and the customs and backgrounds of the communities involved. *Cape Breton Co-operative Services* has divided the Island of Cape Breton into five sections with one director from each section but three directors represent the county of Cape Breton where there is a concentration of industrial co-operatives. The *Cape Breton Co-operative Services* also has a director at large.

In Quebec, the area served by the *Coopérative Fédérée* is divided on a county basis and little consideration is given to the number of co-operatives in the county; in some cases a district will comprise more than 60 or 70 co-operatives whereas another district will probably consist of from 15 to 20.

The *Manitoba Co-operative Wholesale* divides its area on the basis of the number of local societies, the volume of business done by the locals with the central and geographical location. This co-operative also gives particular attention to the selection of central points for district meetings. In Alberta, on the other hand, the *Alberta Co-operative Wholesale* divides the province according to the total volume of retail business done by the locals with their members and patrons.

In practically all cases examined, the first problem consists in the selection of delegates. Some delegates are actually elected or chosen at annual meetings of members in a district or at the annual meetings of the local co-operatives. Others are appointed by local boards of directors. In some provinces, managers of local co-operatives may be appointed as delegates and become candidates for office on the central board. But in Manitoba although there is no specific provision prohibiting the election of a local manager to a central board, reports indicated that most co-operative organizations would refuse to recognize the election of a local manager to a central board.

Residential requirements were usually taken for granted but some directors did not live in the areas they represented. The election of directors at large is a question that is still being debated. Some co-operative leaders believe that the election of directors at large would provide the central boards with better men. However, for a variety of reasons, some large co-operatives have deemed it wise to abandon the practice of electing directors at large.

United Co-operatives of Ontario, one of the oldest and largest regional co-operatives in Canada, is a large-scale purchasing and marketing co-operative. An extensive financial reorganization took place some three years ago and services have been extended to northern and eastern Ontario. These far-flung areas will have to be represented on the central board. In the past directors were elected by delegates at the annual meeting without regard to the location of the nominees. At the last annual meeting, however, a motion was passed instructing the board to prepare a plan of area representation and to present it for consideration at the annual meeting in 1952.

In the examination of the methods of election another interesting fact came to light. This concerns the duties of the directors who represent certain areas on the board. In eastern Canada, directors, while representing areas or districts on central boards, are concerned mainly with the operation and direction of the affairs of the central and are not looked upon as representatives of their respective districts even though they were elected as such. In western Canada, however, in addition to the normal responsibilities of proper direction and policy-making for the central organization, directors are expected to be familiar with the problems of local co-operatives and individual producers in the areas which they represent. Accordingly, they are expected to act as trouble shooters and liaison men between locals and the central and between district meetings of producers and the policy makers at the head office. It would seem, however, that in eastern Canada the desire to have all of the areas served by the co-operative represented on the board, stems from an innate sense of fairness and willing adherence to democratic principles. In western Canada, where the same democratic spirit prevails, the director is given additional responsibilities. He usually attends annual meetings of locals and is the key man at district meetings of producers in the centralized type of co-operative. There are some who believe that this may lead to local thinking and obstructionism on the part of a director and that he might sacrifice the good of the central for the selfish interests of his local or the area he represents.

But reports and discussions held during the survey have indicated that this is not so. In western Canada, co-operators are convinced that the dual-purpose director is largely responsible for the strength and solidarity of the large regional co-operatives.

POST-WAR DEVELOPMENT OF BUSHLAND FARMS IN NORTHERN ALBERTA

K. Elgaard

Significant changes have occurred on bushland farms of northern Alberta in recent years. Changes have taken place in the rate of land improvement, in the amount of farm capital accumulated, and in the combination of enterprises and land use.

These changes were observed during two surveys undertaken by the Economics Division, in the Athabasca area in 1945 and in 1951. In the latter year, farm business records were obtained from 37 farm operators who had been visited in 1945. An appraisal of the expansion of the "average" farm business can be made through a direct comparison of the figures obtained for each of the two years. The changes observed are representative of those that have occurred during the 1944-50 period; they also give some indication of the changes in farm business which have taken place in other settlement areas in northern Alberta.

The area surveyed lies within the elbow of the Athabasca River immediately north of the town of Athabasca and is on the fringe of settlement in the grey wooded soil zone.

Size of Farm and Land Improvement.—The average size of farm increased from 210 acres in 1944 to 238 acres in 1950. The average acreage in improved land increased by 58 acres, or about 62 per cent. This constitutes a rate of increase of 9·6 acres per farm per year. Improved land represented 44 per cent of the total land acreage in 1944 and 63 per cent in 1950.

The increase in improved land includes land acquired by purchase. Of the 37 farmers interviewed only one decreased and eight increased the size of their farm units. The other 28 farms did not change in size but, on the average, the acreage in improved land increased by 43 acres per farm. This represents an increase of 7·2 acres per farm per year. The proportion of improved land per farm was 46 per cent in 1944 and 66 per cent in 1950.

Land improvement has taken place at about double the rate prevailing in the ten years preceding 1944. The cost of clearing and breaking in 1950 was approximately $30 per acre for land with a medium brush cover. The cost of land improve-

Table 1.—Average Size of Farm, Condition of Land and Land Use, 37 Farms in the Athabasca Area, 1944 and 1950

—	1944	1950
	—acres—	
Size of Farm and Condition of Land—		
Cropland	90	145
Improved land	92	150
Unimproved land	118	88
Total, all land	210	238
	—per cent—	
Land Use—		
Cropland acreage	100	100
Wheat	23	32
Coarse grains	30	19
Improved pasture	7	4
Hay[a]	13	3
Legume seed	5	23
Summerfallow	16	15
Breaking	6	4
Legumes	15	25
Coarse grains, improved pasture and hay	50	26

[a] About three-fourths in legume hay.

Table 2.—Number of Livestock on 37 Farms in the Athabasca Area, 1945 and 1951

—	April 1945	April 1951	Decrease	Per Cent Decrease
	—number—			
Horses	170	84	86	51
Cattle	345	294	51	15
Sheep	308	138	170	55
Hogs	295	192	103	35
Poultry	2,236	2,051	185	8
Bee hives	34	2	32	94

ment has risen only slightly in the last ten years due to the increased availability of heavy equipment which the farmer can hire for clearing and breaking his land.

Land Use.—Changes have also taken place in the land use pattern (Table 1). The production of wheat and legume seed absorbed almost all of the increase in cropland. Average wheat acreages increased from 21 acres per farm in 1944 to 47 acres in 1950. Legume seed acreage increased from five acres per farm in 1944 to 34 acres in 1950. The average acreage in summerfallow increased from 14 to 21 acres during the same period.

Wheat and legume seed are the only crops for which acreage has increased as a proportion of the total cropland acreage. Wheat has increased from 23 to 32 per cent and legumes from 15 to 25 per cent. Coarse grains, on the other hand, have decreased from 30 to 19 per cent and the aggregate of coarse grains, improved pasture and hay, decreased from 50 to 26 per cent (Table 1). The present pattern of land use reflects the prevailing livestock program.

Wheat growing has been emphasized in the improvement of the land. Most farmers grow wheat on new land in the first, second, and even the third year after breaking. The Athabasca farmer has also become a specialty farmer engaged in the production of legume seed. There is an increasing demand for that seed. During the last 15 years prices have more than doubled and production has increased more than 40 times in Alberta. Legumes are well adapted to the grey wooded soils and farmers know that this crop is almost indispensable to the maintenance of the texture and the fertility of these soils.

Livestock Enterprise.—Since 1945 a considerable decrease in livestock population has taken place. As may be expected the number of horses has decreased by about 51 per cent. However, there was also a significant decline in all other types of livestock. Sheep numbers decreased by 55 per cent while hog and cattle numbers decreased by about 35 and 15 per cent respectively. The average livestock inventory increased from $894 in 1945 to $1,550 in 1951 as a result of the increase in livestock values (Table 2).

Farm Capital.—Real estate values per farm unit and per acre of occupied land have more than doubled during the six-year period (Table 3). The average value of land per farm has increased because of an increase in size of farm and in the average value of an acre of occupied land. The average value of occupied farm land has increased from $10 to $20 per acre as a result of an increase in improved land and in the demand for land.

For the 28 farms which remained stable in size, land values increased from $2,240 to $4,680 per farm in the last six years. On the average, these farmers improved 43 acres of land per farm at a cost of about $30 per acre. Thus, approximately one-half of the increase in land values in the last six years was due to land improvements. The remainder of the increase in land values can be regarded as a capital gain due to changes in terms of exchange more favourable to the farmer.

The value of farm buildings increased from $836 per farm in 1945 to $1,769 in 1951. The average value of the farm house in 1951 was $891, or approximately half the total value of farm buildings. The increase in the value of farm buildings was very considerable. However, if the 1951 values are deflated to a 1945 basis—using the building materials index for Western Canada—it is seen that the average value of farm buildings had increased to only $946 in 1951.

Table 3.—Average Net Worth, 37 Farms, Athabasca Area, 1945 and 1951

—	April 1945	April 1951
	—dollars—	
Land	2,085	4,640
Buildings	836	1,769
Farm machinery	1,298	4,424
Livestock	905	1,686
Feed and supplies	208	189
Seed	124	187
Other assets	532	1,267
Total assets	5,988	14,162
Total liabilities	185	881
Net worth	**5,803**	**13,281**
Increase in net worth	....	7,478

The fastest rate of increase was in the value and volume of farm machinery and equipment. The machinery inventory amounted to only $1,298 in 1945 but had increased to $4,424 in 1951, in terms of current values or $2,712 in terms of 1945 values. The major part of this increase is attributable to the purchase of special equipment such as tractors, trucks, and threshing machines. The average value of special equipment increased from $585 per farm in 1945 to $2,835 in 1951. There were about two tractors for every five farms in 1945 and six for every five farms in 1951. Tractors have displaced the horses. There were five horses per farm in 1945, but only two in 1951. There is now a truck on every other farm and a threshing machine on about every third farm. A few combines and swathers are also being used in the area. Much of the new equipment was purchased with money obtained through the Farm Improvement Loans Act.

The average value of farm machinery per acre of occupied land increased from about $6 in 1945 to $19 in 1951 or, in terms of 1945 dollars, from $6 to $11. The average value of farm machinery per acre of cropland increased from $14 in 1945 to $30 in 1951. In terms of 1945 dollars, however, the increase is from $14 in 1945 to only $19 in 1951.

Table 4.—Average Cash Farm Receipts and Farm Expenses, 37 Farms in the Athabasca Area, 1944 to 1950

—	Per Farm		Per Cent of Total	
	1944	1950	1944	1950
	—dollars—		—per cent—	
Farm Receipts				
Crop sales	525	1,353	40·3	51·5
Livestock and Livestock products	710	1,013	54·6	38·6
Others	65	259	5·1	9·9
Total cash farm receipts	**1,300**	**2,625**	**100·0**	**100·0**
Farm Expenses—				
Crop expense	179	517	39·4	50·2
Livestock expense	43	60	9·3	5·8
Taxes	41	72	9·0	7·0
Custom work	135	105	29·7	10·2
Paid labour	9	96	2·1	9·3
Others	48	180	10·5	17·5
Total cash farm expenses	**455**	**1,030**	**100·0**	**100·0**
Net cash farm income	845	1,595		
Receipts from outside sources	102	446		
Net cash receipts	947	2,041		
Family living expenses	606	1,247		

The increase in real estate and livestock values and the accumulation of farm machinery have had a significant effect on the farmer's net worth. This net worth increased from $5,803 in 1945 to $13,281 in 1951. The difference in these two figures, $7,478, indicates the progress made by the farmer in the six-year period.

The progress made by the farm operator is due partly to improvements and expansions and partly to higher valuations. In order to measure that part of the progress which was due to improvements and additions to the farm business, the value of each component of the net worth figure for 1951 was converted to a 1945 basis by an appropriate index. A comparison of actual and adjusted values indicates a fifty per cent increase in land and land improvements, a slight increase in farm buildings, an increase of more than 100 per cent in farm machinery, and of fifty per cent in other assets. There was a decrease in livestock, feed, and seed inventories. The net result was an increase of $2,243 for the six-year period, or an average annual increase of $374.

Farm Receipts and Expenses.—Significant changes in the land use pattern between 1944 and 1950 are also indicated by changes in sources of cash farm receipts (Table 4). Livestock and livestock product sales, as a percentage of total cash farm receipts, show a decrease; crop sales show an increase. The average legume seed sales per farm increased from $95 in 1944 to $793 in 1950, or from 18 per cent of total crop sales in 1944 to 59 per cent in 1950. Other crop sales amounted to $429 in 1944 and $560 in 1950. Wheat was the main item in this category, making up three-quarters of the total for other crop sales.

Variations in farm expense are shown in Table 4. Crop expenses as a percentage of total cash farm expenses increased from 39 per cent in 1944 to 50 per cent in 1950; paid labour expenses increased from two per cent to nine per cent; and, expenses for custom work decreased from 30 to 10 per cent.

Receipts from outside sources as a percentage of receipts from all sources increased from seven per cent in 1944 to 15 per cent in 1950. This increase is due mostly to Family Allowance and Prairie Farm Assistance payments.

Conclusion.—The bushland farms of the Athabasca area are becoming more and more mechanized. The main problem, now, does not consist in an increase in farm mechanization but in an increase in efficiency in the use of presently owned farm machinery.

Farms have increased in size. The acreage in improved land has increased as well as the total acreage. The increase in the proportion of wheat and legume seed acreages and the decrease in the proportion of coarse grains, improved pasture and hay acreages illustrate the pattern of land improvement. Changes in land use patterns are reflected in changes in livestock programs. Livestock population has decreased considerably since 1945; this applies to all kinds of livestock and more particularly to horses and sheep.

Farm development has taken place at a rapid rate as a result of bold initiative and favourable circumstances. In the future, however, progress may have to depend more on prudent husbandry of the farm resources and on the ability of the farmer to make adjustments in his farm enterprises in the light of changes in economic conditions.

PER CAPITA CONSUMPTION OF CERTAIN ANIMAL FOODS IN CANADA[1]

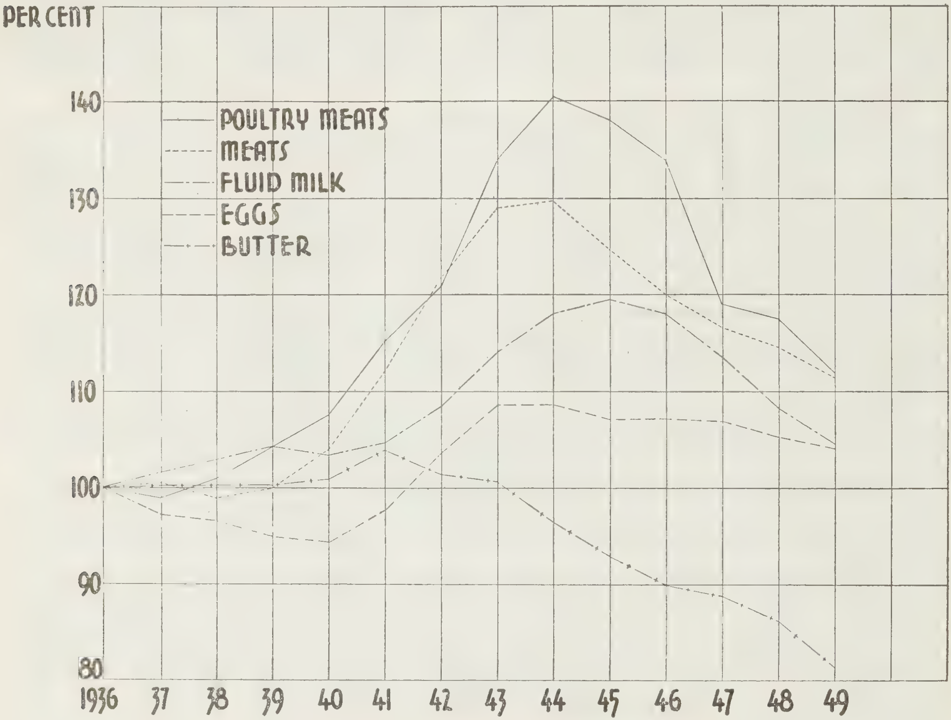
R. CHOQUETTE

One method of estimating food consumption consists in measuring, as far as is practicable, the apparent domestic disappearance of food produced. Statistics on the production of various foods in Canada are regularly compiled by the Dominion Bureau of Statistics. Likewise, data are available on storage stocks, imports, exports and industrial utilization of food products at various times. There is considerable information on normal wastes in the process of marketing. If stocks at the beginning of the year and imports are added to the production of a given kind of food, an estimate of total supplies may be obtained. Subtraction of quantities disappearing through exports, non-food uses, waste, and stocks at the end of the year, leaves an amount which represents the food available for human consumption. Figures relating to the domestic disappearance of a variety of foods are computed by the Dominion Bureau of Statistics. In a recent study these figures were consolidated and extended back to 1926.

---

[1] This article is based on a joint study by the Economics Division and the Dominion Bureau of Statistics. This study on apparent utilization of various types and kinds of food for human consumption, on a per capita basis, will be published shortly.

The accompanying chart is based on some of the data provided by this study. The average consumption during the three-year period, 1935-37, was taken as a basis for indicating the trend in per capita consumption of fluid whole milk, butter, eggs, meats, and poultry meats. Moving averages for subsequent three-year periods are expressed as percentages of this base average. Thus, the relative trend in each of these food classes is indicated.



(*Each of these years represents the centre of a 3-year period— three-year moving averages, 1935-37=100*)

Trends in Per Capita Consumption of Certain Foods, by Groups

The base period, 1935-37, was characterized by a greater degree of prosperity than the period immediately preceding but marked only a stage in the increasing degree of prosperity witnessed in most of the succeeding years. The annual per capita consumption of animal products was lower during the base than during the subsequent period when continued prosperity and other favourable factors resulted in an increased consumption of animal products, except butter which was rationed during the war period.

A high level of prosperity has continued since the end of World War II. Nevertheless, war-time levels of consumption have not been maintained. Per capita consumption of butter increased till 1941, and then declined from year to year to reach about 80 per cent of the pre-war level by 1949. During the 1948-50 period, fluid milk consumption had declined to levels which were not very much above those of the pre-war period. Egg consumption has not varied widely from the base period at any time. Poultry and meat consumption had witnessed the greatest increases in war-time but declined appreciably in the post-war period. In the 1948-50 period the Canadian per capita consumption of animal foods was at approximately the same levels as in the late thirties.[1]

---

[1] 1948 and 1949 figures revised in accordance with the 1946 *Census of the Prairie Provinces.* Figures for earlier years will not be revised until 1951 Census figures can be used as a basis for revision.

MIXED FARMING IN CENTRAL MANITOBA

J. P. Hudson

Soil drifting and limited soil fertility are the two main factors affecting changes in types of farming in the mixed farming area of Central Manitoba. The most important change since World War I has been from a "grain farming" to a "mixed grain and livestock combination" type of farming. In the municipality of North Norfolk, for example, the main shift has been from cereal production to hay and pasture crops. The proportion of cultivated land sown to wheat dropped from 43 per cent in 1916 to 20 per cent in 1946 while the acreage in hay and pasture increased by 11 per cent and that in coarse grains by five per cent. Cattle numbers, on the other hand, increased from 8,141 in 1916 to 13,687 in 1946.

An insight into the present status of the farm business in the mixed farming area of central Manitoba can be gained through an examination of records obtained during an economic study conducted in 1950.[1] The area covered by the study includes 260,000 acres west and south of the town of Gladstone and is roughly divided in two by an imaginary arc passing through MacGregor, Mayfield Station, and a point one mile west of Plumas. The area is about four miles wide on each side of the arc. Soils are light textured and belong to the black earth soil zone of Manitoba. The topography of the land is generally flat with some slight undulations. Annual precipitation averages about 18 inches and half of it occurs during the growing season. The annual frost-free period averages 125 days.

The 103 farms included in the study were selected at random from a total of 601 occupied farms stratified according to size of farm.

Land Utilization.—The farms ranged from 40 to 1,440 acres in size; the average size was 497 acres, of which 71 per cent was improved. Wheat was of relatively minor importance; only about 13 per cent of the improved area was in this crop. On the largest farms, however, the proportion of the cropland in wheat was about five per cent greater than on the smallest farms. Coarse grains were grown on 37 per cent of the cropland—oats accounting for 28 per cent and barley, nine per cent.

A small amount of flax was grown on one-third of the farms and soil-improving crops such as improved hay, pasture and legumes were grown on 85 farms. The average area in soil-improving crops represented 35 per cent of the cropland on the smallest farms and 18 per cent on the largest ones. On the average, about 25 per cent of the cropland on all farms was in summerfallow. A detailed breakdown of cropland utilization according to size of farm is given in Table 1.

Farm Capital.—The average investment in the farm business ranged from $7,753 on the smallest farms to $32,977 on the largest farms and averaged $17,430 per farm. The distribution of this average investment was as follows:

Real estate	50 per cent
Machinery and equipment	26 per cent
Livestock	19 per cent
Seed, feed and supplies	5 per cent

Seventy-four farms were owner-operator farms, 25 were part-owner—part-tenant farms and the other four were tenant farms. The proportion of capital invested in real estate was about 48 per cent on the small farms and 53 per cent on the large farms. As the farms increased in size the livestock share of the total investment decreased from 31 per cent on the small farms to 15 per cent on the large farms; the share of the investment allotted to machinery and equipment increased from 19 per cent on the small farms to 27 per cent on the large farms.

Livestock.—Horses supplied part of the power force on 85 farms and were the only source of power on 11 farms; seven farms did not keep horses. The average number of horses was about four per farm. Exclusive of horses the number of animal units ranged from 1 to 74·1 and averaged 21·3 per farm. Hogs were kept on 80 farms and poultry on 91 farms but both hogs and poultry constituted only minor enterprises on most of the farms. Seven farms had small flocks of sheep. Cattle were kept on all but three of the farms and averaged 18·4 animal units per farm; the average herd was made up of 14·3 animal units on the smallest farms and 26·8 on the largest farms.

---

[1] Unpublished data.

Table 1.—Cropland Utilization According to Size of Farm, 103 Farms in Central Manitoba, 1949

Cropland Utilization	Size of farm (assessed acres)					
	0–250	251–410	411–570	571–730	731 over	All farms
Number of farms	23	20	22	19	19	103
	—acres—					
Total cropland	**106**	**227**	**327**	**472**	**666**	**348**
Wheat	8	22	44	72	86	45
Oats	30	78	94	137	172	99
Barley	7	11	29	40	66	30
Flax	3	4	10	18	14	10
Improved hay and pasture	23	55	56	63	103	58
Legumes	14	4	14	19	21	14
Other crops	2	5	4	5	9	5
Summerfallow	19	48	76	118	195	87

Farm Receipts.—Cash receipts were obtained from grain sales on 93 per cent of the farms and from sales of livestock or livestock products on all but two of the farms. The comparative importance of crop and livestock receipts in relation to the size of the farm is illustrated in Table 2.

On the average, 48 per cent of the receipts came from crop sales and 38 per cent from sales of livestock and livestock products. Crops accounted for 61 per cent of total receipts on the largest farms and for only 17 per cent on the smallest farms. On the other hand, sales of livestock and livestock products provided 73 per cent of total receipts on the smallest farms but only 25 per cent on the largest farms.

Financial Success.—Success can be appraised by the size of the returns to the operator for his labour and management. Operator's labour earnings[1] averaged $2,166 per farm and ranged from minus $589 to plus $8,620. Five farms had negative returns for labour and management. Forty-one farms had earnings of less than $1,500; 46 farms had earnings of $2,000 or over. There were six farms on which earnings exceeded $5,000. Of the 23 smallest farms only one had minus or negative earnings, all but three had labour earnings exceeding $500, and four had earnings of $2,000 or over. None of the 38 farms of 640 acres or more had earnings below $500; six had earnings less than $1,500 and 26 had earnings over $2,000.

Table 2.—Sources and Amounts of Cash Farm Receipts According to Size of Farm, 103 Farms in Central Manitoba, 1949-50

Receipts	Size of farm (assessed acres)					
	0–250	251–410	411–570	571–730	731 over	All farms
Number of farms	23	20	22	19	19	103
	—dollars—					
Wheat and flax	130	474	844	1,571	2,271	1,010
Other crops	257	874	1,510	2,067	4,519	1,765
Cattle	730	780	981	1,962	1,394	1,143
Other livestock	307	350	364	585	658	444
Farm produce[a]	640	421	544	606	735	588
All other receipts[b]	218	421	807	1,392	1,500	836
Total receipts	**2,282**	**3,320**	**5,050**	**8,183**	**11,077**	**5,786**

[a] This item represents, for the most part, sales of eggs and cream.

[b] Includes current sales of crops grown in previous years, receipts from custom work and sales of capital items.

---

[1] Labour earnings represent that portion of all farm receipts which remains for the operator after deductions of all farm expenses and charges for factors other than his labour and management.

Table 3.—Average Increase in Net Worth per Year According to the Number of Years on the Farm, 103 Farms in Central Manitoba, 1949-50

Number of Years on Farm	Number of Farms	Increase in Net Worth per Year
		—dollars—
1—5	27	2,571
6—10	29	1,875
11—15	27	1,554
16—25	13	989
26 and over	7	609

Average labour earnings per farm, according to size of farm, were as follows:

Size of farm (acres)	0-250	251-410	411-570	571-730	731 and over	all farms
Number of farms	23	20	22	19	19	103
Operator's labour earnings	$1,228	$1,338	$1,904	$2,782	$3,861	$2,116

Success can also be measured by the average change in net worth from year to year for the period during which the farmer operated his present farm. In using this indicator of success, however, due weight must be given to the level of prosperity which prevailed during the period under consideration. As indicated in Table 3 the newest operators have registered larger gains than those who were on their present farms when farming was a less profitable enterprise. Part of the recent gains, of course, is attributable to the increase in monetary value of the farm assets.

FACTORS AFFECTING THE GRADING OF CHICKEN

G. B. Murray

The Canadian Dressed Poultry Regulations adopted by the Canada Department of Agriculture in 1928, have provided the poultry industry with uniform standards to guide its production and merchandizing policies. These standards are descriptive and prescribe how poultry marketed under the regulations are to be slaughtered, graded and packaged.

Since the regulations became effective, consumer preferences and merchandizing techniques, and even the various types of poultry carcasses produced, have changed. In turn, the Dressed Poultry Regulations and their interpretation have been altered to meet these changes. The most recent revisions in the interpretation of the regulations were made in the fall of 1950 and 1951.

In this article an attempt is made to evaluate the effects that the various grading factors have on chicken marketed under these regulations. The analysis is based on the findings of a study conducted in the fall of 1950, prior to the revision of the interpretation of the regulations. The objective of the study was to determine the extent to which poor conformation, poor fleshing, lack of fat and poor dressing were responsible for the relatively large quantity of chicken that entered the market as unfinished poultry.

Methodology.—Data were obtained from random samples taken in all provinces of Canada except Manitoba and Newfoundland. Four classes of chicken were included: heavy roasters, light roasters, fryers and broilers. For each class, birds were randomly selected from the cooling rooms of 24 processing plants. The plants selected were considered to be representative and received live poultry for processing from the major production areas. These plants were located as follows: three in British Columbia, four in Alberta, three in Saskatchewan, five in Ontario, three in Quebec and two in each of the three Maritime provinces. A sample of heavy roasting chicken was obtained in each of the eight provinces but a sample of light roasting chicken was taken only in Quebec, Alberta, and British Columbia; of fryers only in Ontario and Alberta; and of broilers in Quebec, Ontario and British Columbia.

Table 1.—Grading of a Sample of Various Kinds of Chicken and Number of Factors for which Chickens were Down-graded

Kind of Chicken	Grades A and Special	Unfinished Poultry[a]			Total
		Down-graded for 1 Factor	Down-graded for 2 Factors	Down-graded for more than 2 Factors	
	—per cent—				
Heavy roasters	43	30	16	11	100
Light roasters	49	31	18	2	100
Fryers	55	24	16	5	100
Broilers	46	30	17	7	100
Average	45	29	17	9	100

[a] Grades B, C and D.

According to the sample 45 per cent of the carcasses of all classes of chicken marketed through registered processing plants were graded A, and a small proportion of this group was graded Special (Table 1). Over half of the carcasses were graded as unfinished chicken—29 per cent were down-graded for failure to meet regulations for one factor, 17 per cent for weaknesses in two factors and nine per cent for defects in more than two factors. Only those groups which were down-graded for one or two factors are considered in this analysis.

Chicken Down-Graded for One Factor.—Almost one-third of the carcasses were down-graded for one factor only. The relative importance of each factor varied with each kind of chicken but was generally closely associated with the age of the bird (Table 2).

Poor conformation accounted for 17 per cent of the birds down-graded for one factor only. The range varied from a low of three per cent for the fryers and broilers to 23 per cent for the heavy roasting chicken. Ten per cent of the light roasters were down-graded for poor conformation—either crooked keel bones or breast-blisters, which are generally found on birds with deep bodies and protruding keels.

The sample data show no association between the age and weight of the birds and the down-grading for lack of flesh which accounted for 16 per cent of the birds down-graded for one factor.

There was a close relationship between age and weight and the proportion of birds down-graded for lack of fat. Approximately 47 per cent of all birds down-graded for one factor lacked fat. With the exception of fryer-weight birds the number of birds down-graded for lack of fat decreased as the age and weight of the birds increased. Of the broilers, 62 per cent were down-graded for lack of fat. Corresponding figures are 52 per cent for light roasters, and 43 and 42 per cent for the heavy roasters and fryers, respectively.

Poor dressing accounted for one-fifth of the carcasses down-graded for one factor. With the exception of broilers, there was a close relationship between age and weight and the proportion of the birds down-graded for poor dressing. Only 18 per cent of the heavy roasters and 20 per cent of the broilers were down-graded for poor dressing. On the other hand, 28 per cent of the light roasters, and 33 per cent of the fryers were poorly dressed.

Table 2.—Kinds of Chicken Down-graded for One Factor Only and Reasons for Down-grading

Kind of Chicken	Reasons for Down-grading				
	Poor Conformation	Poor Fleshing	Lack of Fat	Poor Dressing	Total
	—per cent—				
Heavy roasters	23	16	43	18	100
Light roasters	10	10	52	28	100
Fryers	3	22	42	33	100
Broilers	3	15	62	20	100
Average	17	16	47	20	100

Table 3.—Kinds of Chicken Down-graded for Two Factors and Reasons for Down-grading

Kind of Chicken	Reasons for Down-grading						
	Conformation and Flesh	Conformation and Fat	Conformation and Dressing	Flesh and Fat	Flesh and Dressing	Fat and Dressing	Total
	—per cent—						
Heavy roasters	28	5	9	26	8	24	100
Light roasters	16	....	....	76	....	8	100
Fryers	28	5	3	15	13	36	100
Broilers	5	4	10	47	5	29	100
Average	23	4	8	34	7	24	100

Chicken Down-Graded for Two Factors.—To provide an adequate analysis of the down-grading of chicken for two factors, six possible combinations were used. These combinations were: conformation and flesh, conformation and fat, conformation and dressing, flesh and fat, flesh and dressing and fat and dressing. Carcasses of all classes of chicken down-graded for two factors comprised 17 per cent of the total sample. There was no apparent relationship between age and weight of the birds and down gradings. The number of birds down-graded for poor conformation and lack of flesh amounted to 23 per cent as compared with 24 per cent for those with lack of fat and poor dressing (Table 3). Poor fleshing and lack of fat accounted for 34 per cent of the carcasses down-graded for two factors.

Most of the Canadian dressed chicken coming to the market is produced on mixed farms, except for the production of broilers, which is rapidly becoming a specialized phase of poultry meat production. The production and marketing of the heavier classes of chicken are complementary to the production and marketing of eggs and in spite of this secondary role, the relative quantities of dressed poultry marketed from mixed farms as finished poultry can be substantially increased.

Feeding Practices.—A substantial improvement in the relative quantity of Grade A and Grade Special chicken should result from the more widespread use of the best feeding practices known to the poultry industry. Survey data showed that 14 per cent of the chicken in the sample were down-graded for poor finish or lack of fat; more light-weight than heavier classes of chicken were down-graded for this reason.

Selection.—Equally as many carcasses were down-graded for poor conformation and poor fleshing as for lack of fat. The majority of the birds down-graded for these two factors were heavy roasters. It is evident that a substantial increase in the proportion of Grade A chicken, particularly in the heavier classes, can be gained by rigid selection. The problem consists in the development of strains of breeds of chicken with well-rounded bodies. Progress in the development of these strains will be slow, but will add to any advances made through improvements in feeding practices.

ERRATUM

Vol. XXII, No. 1, February 1952, article on "Flaxseed Production in the Prairie Provinces" by W. L. Porteous, paragraph 1, page 12. Please **delete:** "increased from 517 thousand to 1·3 million acres" and **substitute** "increased from 572 thousand to 1·3 million acres".

FEDERAL AGRICULTURAL PROGRAMS AFFECTING PRICES OF FARM PRODUCTS, JANUARY 1, 1951 TO MARCH 1, 1952

Legislative Authority	Commodity	Minimum Price		Policy
		To Producer	In Effect	
Agricultural Prices Support Act, 1944. (S.C. 1944–45, c. 29; 1947–48, c. 32; 1950, cc. 4 + 51).	Butter	58¢ per lb. first grade creamery, basis Halifax, St. John, Montreal and Toronto and 57¢ Vancouver.	May 1, 1951—Apr. 30, 1953.	The Agricultural Prices Support Board offers to purchase butter from the producer and to store it until needed in the market to supplement current production. All purchases made are subject to the terms and conditions specified by the Board.
		63¢ per lb. first grade creamery, basis Halifax, St. John, Montreal and Toronto and 62¢ Vancouver.	Aug. 29, 1951 until purchase of 10 mil. lb. has been completed.	Provision has been made for the purchase of up to ten million lbs. at this price in connection with the general import program for butter. This price takes precedence over the 58¢ per lb. price provided for from May 1/51–Apr. 30/53.
	Cheese	28¢ per lb. first grade Can. cheddar delivered Montreal.	Apr. 27-Dec. 31, 1951 inclusive.	The Board offered to buy until the end of 1951 first grade Can. cheddar cheese produced in the months May to November, 1951, inclusive, at 28 cents per lb. delivered Montreal plus an allowance not to exceed one-half cent per lb. per month to cover carrying and storage charges.
	Eggs	38¢ per doz. "A" large, 36¢ per doz. "A" medium at all storage points in Canada.	An appropriate period late in 1951.	The Agricultural Prices Support Board offered to buy, at an appropriate time late in 1951, at these minimum prices plus a stipulated allowance to cover storage costs, all eggs then unsold which had been stored according to the Board's specifications during the period Dec. 1950 to May 1951.
		38¢ per doz. "A" large, 36¢ per doz. "A" medium at all storage points in Canada.	An appropriate period in 1952.	The Support Board will buy out of storage during an appropriate period in 1952 eggs stored according to the Board's specifications. In addition to these minimum prices the Board may pay up to five cents per dozen to cover storage costs.
	Pork Products	On the basis of $31.45 per cwt. for fresh frozen Wiltshire sides from Grade A carcasses and $30.95 for those from Grade B_1 carcasses, in storage, basis Toronto, with appropriate differentials for transportation charges for other locations in Canada.	From Jan. 24, 1951.	The Board was authorized to purchase pork products on the basis of these prices for Wiltshire sides processed according to Board specifications. These prices were in line with that of $32.50 per cwt. for A Wiltshire sides at Can. seaboard delivered for the United Kingdom contract in 1950.

		On the basis of $26.00 per 100 lb. warm dressed weight grade A carcasses at public stockyards, Toronto and Montreal, with appropriate price differentials at principal public stockyards throughout Canada.	Feb. 16-Sept. 30, 1952.	The Board offers to buy the stocks of the five standard domestic pork cuts held by federally inspected plants on or before Sept. 30/52 at 36½¢ lb. plus storage and handling charges up to 5¢ lb. This program is designed to provide a minimum price of $26. per 100 lbs. for Grade A hogs at the public stockyards in Toronto and Montreal, and $24.50 at Winnipeg.
Agricultural Prices Support Act, 1944 **Agricultural Products Co-operative Marketing Act, 1939** (S.C. 1939, c. 28; 1940, c. 19).	Potatoes	$1.20 per bbl. for Canada No. 1 grade, grown in Prince Edward Island and New Brunswick.	On 1950 crop deliveries to each of the two provincial Marketing Boards.	Assistance in marketing the 1950 crop of potatoes grown in these provinces was extended under the authority of **both** of these acts. An agreement between the Federal Minister of Agriculture and the selling agency for the P.E.I. & N.B. Potato Marketing Boards was authorized under the Agric. Products Co-op. Marketing Act. This agreement guaranteed an initial advance of 60¢ per bbl. (or 36·36 cents per 100 lbs.) for Canada No. 1 grade potatoes, plus a maximum allowance of 15 cents per bbl. to cover processing, carrying and selling costs. The total amount advanced was to be recovered through future sales of the product. Once marketing had been completed under this Act, the government authorized the Agric. Prices Support Board to provide a deficiency payment to growers to bring the price to $1.20 per bbl. for all potatoes delivered to these provincial marketing boards so that the price would be in line with that for potatoes marketed outside the agreement.
		Initial payment (as a percentage of the previous 3 years' average wholesale price), **approx.:**		
Agricultural Products Co-operative Marketing Act, 1939	Forage crop seeds	29%	1950-51 agreement.	To aid farmers in organizing and administering marketing pools for the orderly marketing of their products the Federal Government assists in financing initial payments by the co-operatives to primary producers on delivery of products for sale. Agreements may be made by the Minister of Agriculture with producers' groups, providing for a pooling of returns, on a grade basis, with deductions for costs of processing, carrying and selling. Initial payments are subject to negotiation but may not exceed 80% of the average returns for like grades and qualities during the previous 3 years. The Federal Government guarantees the banks against loss in advancing funds to organizations marketing co-operatively. The agreement only acts as a support measure for a specific commodity if the price eventually realized is less than the guaranteed initial payment.
		26%	1951-52 agreement.	
	Fox pelts	58%	1950-51 agreement.	
		50%	1951-52 agreement.	
	Apples produced in the fruit growing districts of Quebec for processing into pulp or juice.	15¢ per bu. for apples of "C" grade or better, of proper maturity for manufacture of choice grade apple juice or good quality apple pulp, plus $1.15 per case of finished product to cover processing, carrying and selling costs.	1951-52 agreement.	

FEDERAL AGRICULTURAL PROGRAMS AFFECTING PRICES OF FARM PRODUCTS, JANUARY 1, 1951 TO MARCH 1, 1952—Concluded

Legislative Authority	Commodity	Minimum Price		Policy
		To Producer	In Effect	
Agricultural Products Act, 1947 (S.C. 1947, c. 10; 1947-48, c. 1; 1949, c. 8; 1950, c. 5; expired Mar. 31, 1951).	Bacon	$33.75 per 100 lbs. "A" Wiltshire sides.	On all pork products put into cure for U.K. contract from Oct. 2, 1950 to Jan. 1951.	The Meat Board increased the price paid to producers from $32.50 to $33.75 per 100 lbs. for "A" Wiltshire sides from Oct. 2/50 for bacon to fill the United Kingdom contract for 60 mil. lbs. The price to the U.K. was $29.00 per 100 lbs. delivered Can. seaboard. The difference of $4.75 per 100 lbs. comprised the subsidy of $3.50 paid under this Act and $1.25 paid out of accumulated Meat Board reserves.
Canadian Wheat Board Act, 1935 (S.C. 1935, c. 53; 1936, c. 12, Ss. 4 + 5; 1939, c. 39; 1940, c. 25; 1942-43, c. 4; 1947, c. 15; 1947-48, c. 4; 1950, c. 31; 1951, c. 3.	Wheat	**Initial** price per bu. basis No. 1 Nor. in store Ft. William-Port Arthur or Vancouver: $1.40; Feb. 1/51 increased by 20¢; final payment, 25.498¢; total return–$1·85498.	1950-51 pool (Aug. 1, 1950-July 31, 1951)	The Canadian Wheat Board is currently responsible for the marketing of wheat, oats and barley produced in designated areas which include the Prairie Provinces and some sections of B.C. and Ont. Until July 31, 1953 interprovincial and export trading in wheat, wheat products, oats and barley are to be the responsibility of the Board or subject to regulations made by the Governor in Council. On Nov. 24/51 farmers in Manitoba voted to continue marketing their oats and barley through the Can. Wheat Board.
		Initial price per bu. basis No. 1 Nor. in store Ft. William-Port Arthur or Vancouver: $1.40; Feb. 1/52 increased by 20¢.	1951-52 pool (Aug. 1, 1951-July 31, 1952)	Farmers receive initial prices for wheat, oats and barley and a producer's certificate showing quantity and grade delivered. This certificate entitles them to share in any surpluses accumulated by the Board in the sale of the respective grains during the pool period.
	Oats	**Initial** price per bu. basis No. 2 C.W. in store Ft. William-Port Arthur: 65¢; Feb 1/51 increased by 10¢; final payment, 9·710¢; total return–84·710¢.	1950-51 pool (Aug. 1, 1950-July 31, 1951)	On Mar. 21/51, $65 million was added to the amount in the 5 year wheat pool (1945-49 crops inclusive), giving a total of $120 million for distribution on 1,428 mil. bus. of wheat delivered during the pool period. This final payment averaged 8·3¢ per bu. The 1950-51 wheat pool was closed Oct. 20/51 and 95·3 mil. bus. were transferred to the 1951-52 pool under the provisions of the 1951 amendment to the Act. This amendment also made it possible to vary the interim payments for different grades. However, the 20¢ per bu. increase in initial prices on Feb. 1/51 applied on all grades. For the years 1951-53 there are to be single crop-year pool periods. The domestic prices for the 1951-52 wheat crop are the same prices for which the Board is selling wheat for export under the terms of the third year of the International Wheat Agreement: ceiling price $1.80 (U.S. funds) per bu. & floor price $1.30 (U.S.) per bu. for No. 1 Nor. in store at Lake-
		Initial price per bu. basis No. 2. C.W. in store Ft. William-Port Arthur: 65¢.	1951-52 pool (Aug. 1, 1951-July 31, 1952)	

Barley.............	**Initial** price per bu. basis No. 3 C.W. six-row in store Ft. William-Port Arthur: 93¢; Feb. 1/51 increased by 20¢; final payment 20·882¢; total return, $1·33882.	1950-51 pool (Aug. 1,1950-July 31,1951)	head or Vancouver. An additional 6¢ per bu. carrying charge on all sales under the I.W.A. for registration in 1951-52, and on the domestic selling price, became effective June 14, 1951. Prices for export wheat sold outside the I.W.A. will be those announced by the Can. Wheat Board at the time of sale. The U.K. has agreed to purchase 95 mil. bus. of Can. wheat and 350,000 tons of flour (equivalent to 18 mil. bus. of wheat) under the I.W.A. during 1951-52, with provision for the purchase of an additional 9·3 mil. bus. outside the provisions of the agreement. The increases in initial prices of oats and barley in 1950-51 applied on all grades. The provisions of the 1951 amendment to the Act concerning liquidation of pools and variation in interim payments according to grades, also apply to oats and barley. The 1950-51 oats pool was closed October 6/51 and slightly over 3 mil. bus. of cash oats were transferred to the 1951-52 pool. Final payments on lower grades of oats and barley were generally above those on the top grades. The 1950-51 barley pool was closed Sept. 22/51 and slightly over 8 mil. bus. of cash barley were transferred to the 1951-52 pool. The 3¢ per bu. increase in this initial price of No. 3 C.W. six-row barley for the 1951-52 crop is to provide a premium for the malting grades over the feeding grades.
	Initial price per bu. basis No. 3 C.W. six-row in store Ft. William-Port Arthur: 96¢; Mar. 1/52 increased by 20¢.	1951-52 pool (Aug 1,1951-July 31,1952).	

---

[a] Prepared by **Marjorie R. Cameron.**

See "Current Federal Agricultural Programs Affecting Prices of Farm Products" in the October 1950 issue of *The Economic Annalist.*

Agricultural Products Marketing Act, 1949

A brief summary of a Note of Opinion by C. J. Campbell of the Prince Edward Island Attorney General's Department indicates that the Supreme Court of Prince Edward Island in a judgment on January 31st, 1952, held that the Parliament of Canada, acting through the Governor in Council, could not confer jurisdiction to regulate interprovincial and export trade upon a Board or agency constituted by authority of a Provincial Legislature. Another part of the judgment held that the Provincial Government could only bestow powers of regulation on Marketing Boards and operations which were confined to transactions which take place wholly within the province.

In effect, this judgment would appear to mean that powers granted by either provincial or federal authority should be exclusive in order to be legal. Mr. Campbell notes further that while the Agricultural Products Marketing Act of 1949 provides for revocation of the delegated authority, it cannot be said that in the interval between the conferring and the revocation of authority the Parliament of Canada retains its powers intact, since the provincial board or agency is not responsible to the Parliament of Canada and, according to the federal Act, the measure of authorized powers is, "the powers exercisable by such Board or agency (by virtue of provincial enactment) in relation to marketing locally within the province".

CONSUMER DEMAND FOR CHEESE IN OTTAWA, TORONTO AND VANCOUVER[1]

L. E. Drayton

Traditionally, Great Britain has been the major market for Canadian cheddar cheese. A relatively low Canadian per capita cheese consumption in comparison with consumption in many other countries implies that the domestic market may not have been fully exploited. In recent years the British export market has become less stable with the result that cheese producers and the trade generally have become more concerned about the development of the domestic market. Studies to obtain information on variations in demand and consumer preferences for all kinds of cheese should provide a reliable estimate of the potentialities of the domestic market.

Recent surveys reveal that almost all families in Ottawa, Toronto and Vancouver use some type of cheese. According to an interview of a representative sample of families, less than five per cent of the housewives have never had cheese on the family menu. Processed cheese is somewhat more popular than cheddar in each of the three cities but most families eat both of these types of cheese. Cheddar cheese is used in 90 per cent of the Ottawa households as compared with 80 per cent of the Vancouver and 70 per cent of the Toronto households. Cottage cheese, however, is used in many more households in Vancouver—three-quarters of all households—than in either of the other two cities. Other kinds of cheese such as Gruyère, Oka, and Danish Blue were classed as special cheeses for survey purposes. These are used by one-third to one-half of all families in each of the three cities.

Cheddar cheese is classed as mild, medium and old, according to the length of time it has had to age. The longer it is kept under normal aging conditions the stronger is its flavour. A different kind of strength was found to be the most popular one in each of the three cities. In Ottawa, the favoured strength was mild, in Vancouver, medium, and in Toronto, old. However, many families use two or even all three of these various types of strength. In some instances, this arises from difficulties in obtaining the desired strengths at certain times, but more often this is due either to the lack of any strong preference, to different preferences by various members of the family, or to a variety of preferences for different uses.

The addition of colouring matter in the production of cheese does not affect either flavour or food value. Nevertheless, coloured cheese is used more than uncoloured cheese by over three times as many families in each city. The fact that almost all of the mild and medium cheese is coloured partly explains this situation, but it is also possible that many of the families who prefer old cheddar—which is usually uncoloured in Eastern Canada—also prefer coloured cheese. In all three cities, the main reason given for preferring coloured cheddar was that it looks more appetizing or has eye appeal. Among those using mainly uncoloured cheese, the most frequent reason given for this preference was that it is a stronger type of cheese.

Shopping and buying habits vary considerably among individuals but the most common practice is to buy both cheddar and processed cheese for the following week during a weekly shopping excursion. Nevertheless, about half of the families interviewed bought each type of cheese less frequently than once a week. Except in Vancouver, cottage cheese is bought less frequently than cheddar or processed cheese. Many families buy cottage cheese only occasionally and over half of those who buy special kinds of cheese do so less often than once a month. The housewives were asked about the usual quantity of cheddar cheese purchased at one time. According to their replies the most frequent size of purchase is a half-pound and the next most frequent one is the one-pound size.

Cheese is served in a variety of ways. In fact, over three-quarters of all families serve cheese in each of the following ways: pieces served at mealtime, for snacks, in plain sandwiches, in toasted sandwiches, and in cooked dishes. Many people also use cheese in salads.

About one-third of the interviewed families reported that they had cheese on the table at mealtime almost every day. Almost as many families serve cheese this way two or three times a week. On the other hand, cheese is served in pieces at mealtime infrequently (less often than once a week) or not at all by less than one-quarter of all families in the three cities. Cheddar cheese is most frequently served this way but many families also serve processed cheese.

---

[1] In September and October a private market research agency conducted, under contract with the Department of Agriculture, a survey on Consumer Use for Cheese in Toronto and Vancouver. During November a similar survey was undertaken by the Economics Division in Ottawa. This article presents some of the findings of these surveys.

As may be expected, cheese is not served in snacks as frequently as at regular meals. Cheese is served in snacks weekly or more often by 70 per cent of all families in Ottawa and Toronto as compared with 58 per cent in Vancouver. Processed and cheddar cheese are equally popular for snacks in these cities. Special types of cheese such as Oka and Gruyère are used mostly for parties and between-meal snacks. However, they are not used for this purpose in any of the cities to as great an extent as cheddar and processed cheese.

Cheese is also used in plain sandwiches. In each city between 40 and 47 per cent of the families reported serving cheese this way twice a week or more often, and an additional 25 per cent of these families did so about once a week. Processed cheese is most popular for untoasted sandwiches. However, over one-quarter of the families reported that they used cheddar more often than processed cheese in sandwiches.

Toasted cheese sandwiches are served only slightly less frequently than untoasted ones. Over one-third of all families serve cheese this way twice a week or more often, and nearly another third do so about once a week. As with plain sandwiches, processed is more generally used than other types of cheese. However, cheddar cheese is somewhat more popular for toasted than for plain sandwiches. Only about half of all families who prepare toasted cheese sandwiches have a special sandwich grill.

Cheese is used less frequently in cooked dishes than in sandwiches. Very few families serve cooked cheese dishes every day. Nevertheless, almost half the families in Toronto and Vancouver, as compared with over two-thirds in Ottawa, reported serving such dishes about once a week or more often. Cheddar cheese is more popular than processed for cooked dishes.

Cottage cheese is the only type frequently used in salads. About one-quarter of the Vancouver families serve salads containing cottage cheese about once a week. Only 10 per cent of the families in the same city reported that they used some other types of cheese in salads. In Toronto and Ottawa cheese is used less frequently in salads but more families use cheddar and processed cheese in this manner than in Vancouver.

In summary, the surveys reveal that almost all families use some cheese. Processed cheese is slightly more popular than cheddar but most families use both of these types of cheese. It is a common practice to serve cheese in a variety of different ways quite frequently. Cheddar cheese is preferred by most families for pieces at mealtime and in cooked dishes. Cottage cheese is the only type frequently used in salads. Processed cheese is most popular for both toasted and untoasted sandwiches.

UNITED NATIONS PUBLICATIONS

United Nations, New York, N.Y. (In Canada, these publications are available from: The Ryerson Press, 299 Queen St. West, Toronto.)

Statistical Yearbook 1951. This third issue of the Yearbook presents international statistics on "demographic, economic, financial, social, and cultural matters and their changes during the last two decades".

Demographic Yearbook 1951. The Demographic Yearbook is prepared by the Statistical Office of the United Nations. This third "volume is a compilation of current and retroactive data . . . on population, vital statistics and migration for every country and geographic unit of the world for which such statistics are available".

Of particular interest to agriculturists are: the chapter on "Agriculture" dealing with agricultural production and livestock population, the tables relating to the production and consumption of fertilizers, and the tables on national income and its distribution among agriculture and other industries.

Flood Damage and Flood Control Activities in Asia and the Far East (Lake Success, 1950). This study was carried out by the Bureau of Flood Control of the Economic Commission for Asia and the Far East. The report itself deals with hydrology, development of flood control works, and flood damage and flood control activities.

Measures for International Economic Stability (1951). This is the third of a series of major economic reports prepared by United Nations experts. The first two reports dealt with *National and International Measures for Full Employment* (December 1949) and *Measures for the Economic Development of Under-Developed Countries* (May 1951). The present report discusses general issues and principles relating to international economic stability, and deals with specific measures regarding international commodity agreements, the international flow of capital, and international monetary reserves.

Methods of Labour Productivity Statistics. Report prepared for the Seventh International Conference of Labour Statisticians (Geneva, September, 1949). International Labour Office. Geneva. 1951.

As stated on page four of the Introduction this report "is of a preliminary and informational character, and endeavours rather to raise problems and analyse them than to prescribe definite solutions to the considerable difficulties that are to be encountered".

The report, however, is comprehensive in scope. A brief review of concepts and definitions precedes a study of the factors affecting labour productivity and the problems concerning the measurement of labour, output, and labour productivity. One chapter is devoted to special inquiries; that is, the collection of information through direct inquiries. The international aspects of the problem are discussed in a chapter entitled "International Comparisons of Labour Productivity" and another chapter is devoted to the various interpretations given to labour productivity data, in relation to the bases of computation. Some general conclusions are given in the last chapter and the report is concluded by the presentation of three appendices: one deals with the "Analysis of Labour Productivity Formulae", the second one is a "Resolution Adopted by the Seventh International Conference of Labour Statisticians" and the last one is a list of selected references.

PUBLICATIONS OF THE ECONOMICS DIVISION

A Study of Apple Production in the Okanagan Valley of British Columbia, 1949. *Ware, D. W., E. D. Woodward, and H. W. Trevor.* Processed pub. Ottawa. January 1952.

The authors study the organization and the farm practices followed on orchard farms of the Okanagan Valley and the various sources and types of receipts and expenses on those farms in 1948-49. Their analysis culminates in an attempt to determine some of the factors which are responsible for variations in labour income.

Changes in Agriculture in Dundas County, Ontario. *Dawson, J. A.* Processed pub. Ottawa. February 1952.

A 16-page report on the development of agriculture in Dundas County and on changes on farms of this county between 1917 and 1948. Special attention is given to changes in land use, livestock programs, capital investment, farm receipts, expenses and earnings, farm labour and mechanization.

An Economic Classification of Land in the Govenlock-Eastend-Maple Creek Area, Saskatchewan, 1946. *Stutt, R. A.* Processed pub. Economics Div. in co-operation with the Dept. of Farm Management, University of Saskatchewan. 1951.

Work on the economic classification of land according to suitability for wheat production was completed for all of Southwestern Saskatchewan with the publication of the reports on the Govenlock-Eastend-Maple Creek area. This report provides a description of the land and an analytical treatment of factors pertaining to its ownership, occupancy, tenure and value. The report also deals with soil erosion and includes two sections on governmental financial aid and wheat yields.

The Market for Farm Products in the Province of Newfoundland, 1948-1950: 1. The Market for Vegetables in St. John's, 1949-50. Processed preliminary report. Economics Div. in co-operation with the Dept. of Natural Resources, Agricultural Div., St. John's, Newfoundland. Ottawa. October 1951.

This first of a series of preliminary reports on the market for farm products in Newfoundland presents the findings of a survey of the volume and value of the market for vegetables in the St. John's trading area. The survey took place from June to December 1950 and the data pertain to the years 1949 and 1950.

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS

G. P. BOUCHER, Editor

JUNE 1952 Vol. XXII, No. 3

CONTENTS

Page

The Economic Situation 51

Marketing Margins for Canadian Agricultural Products, 1935-1951 .... *F. M. Schrader* 53

Periodic Movements in Hog Populations .... *G. E. Woollam* 55

Economic Aspects of Tractor Use in Ontario and Quebec .... *J. A. Dawson* 60

Co-operatives in Newfoundland, 1950, Part I.... *J. E. O'Meara and H. K. Ingersoll* 63

The Production of Maple Syrup on Ontario Farms—*D. J. Packman* 65

Recent Changes in Potato Varieties Grown in Prince Edward Island .... *G. C. Retson and E. S. Eaton* 69

F. A. O. Publications 72

MARKETING SERVICE, ECONOMICS DIVISION

J. F. BOOTH, Chief

**Published by Authority of the Right Honourable James G. Gardiner,
Minister of Agriculture**

ANNUAL AND MONTHLY INDEX NUMBERS

WHOLESALE PRICES, FARM PRICES AND LIVING COST INDEXES

Year	Wholesale Prices 1935-39=100				Farm Prices of Agricultural Products 1935–39=100	Commodities and Services used by Farmers 1935-39=100		Cost of Living 1935-39=100	
	(a) General Wholesale Index	(b) Farm Products	(c) Field Products	(d) Animal Products	(e)	(f) Equipment & Materials	(g) Eleven Factor Index	(h) Farm Living Costs	(i) Urban Living Costs
1913	83·4	....	....	....	....	85·4	....	80·1	79·1
1914	85·4	....	....	....	....	90·2	85·3	82·3	79·7
1915	91·8	....	....	....	....	96·9	91·6	86·5	80·7
1916	109·8	....	....	....	....	101·7	100·5	93·7	87·0
1917	148·9	....	....	....	....	140·7	140·5	111·5	102·4
1918	166·0	....	....	....	....	164·1	160·2	131·1	115·6
1919	174·7	....	....	....	....	169·1	167·9	143·0	126·5
1920	203·2	....	....	....	....	190·1	186·5	171·3	145·4
1921	143·4	....	....	....	....	147·4	152·5	139·9	129·9
1922	126·8	....	....	....	....	124·6	134·1	127·9	120·4
1923	127·7	....	....	....	....	118·3	130·6	128·3	120·7
1924	129·5	....	....	....	....	122·3	131·9	125·5	118·8
1925	133·8	....	....	....	....	123·2	131·8	123·9	119·8
1926	130·3	144·4	158·5	130·2	....	119·9	130·6	121·1	121·8
1927	127·3	138·6	149·4	127·8	....	119·9	131·2	119·8	119·9
1928	125·6	136·3	134·3	138·2	....	118·3	129·3	118·5	120·5
1929	124·6	140·8	137·2	144·4	....	117·6	127·9	117·3	121·7
1930	112·9	119·5	105·8	133·3	....	105·6	117·0	113·7	120·8
1931	94·0	78·9	65·0	92·7	....	92·2	100·9	103·9	109·1
1932	86·9	65·5	60·4	70·5	....	89·3	93·3	97·8	99·0
1933	87·4	69·3	69·3	69·2	....	88·8	89·8	95·8	94·4
1934	93·4	83·5	80·5	86·5	....	96·8	95·5	97·9	95·6
1935	94·4	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	96·7	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	107·8	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·0	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	99·2	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	108·0	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	116·4	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	123·0	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	127·9	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	130·6	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	132·1	166·4	162·5	170·2	185·7	125·9	152·1	123·2	119·5
1946	138·9	179·5	177·9	181·2	204·1	128·0	157·0	127·1	123·6
1947	163·3	192·2	184·1	200·2	215·8	139·5	170·4	138·3	135·5
1948	193·4	232·1	200·6	263·7	255·8	173·1	197·4	162·8	155·0
1949	198·3	228·7	191·9	265·4	255·4	180·3	204·1	173·2	160·8
1950	211·2	236·7	191·9	281·4	260·8	189·9	210·4	177·6	166·5
1951	240·1	265·1	193·4	336·9	291·5	206·0	229·9	198·6	184·5
1951									
June	242·7	272·6	192·0	353·1	300·7	....	....	....	184·1
July	244·2	277·1	195·4	358·9	307·7	....	....	....	187·6
Aug.	241·5	263·3	178·3	348·3	294·3	207·5	237·7	228·5	188·9
Sept.	240·1	260·5	181·7	339·2	293·2	....	....	....	189·8
Oct.	239·6	259·3	188·1	330·3	288·7	....	....	....	190·4
Nov.	239·1	264·9	201·4	328·5	287·6	....	....	....	191·2
Dec.	237·6	266·8	204·4	329·1	287·2	....	....	....	191·1
1952									
Jan.	236·8	263·1	208·0	318·2	284·0	218·1	236·5	228·3	191·5
Feb.	232.6	251·2	205·1	297·3	272.4	....	....	....	190·8
Mar.	230·8	248·3	213·3	283·3	267·2	....	....	....	189·1
April	226·9	245·4	217·1	273·7	264·6	....	....	....	188·7
May	....	....	....	....	....	....	....	....	186·7

(a) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo.) Ottawa, Monthly.
(b) Ibid (a). Wholesale prices of products of Canadian farms.
(c) Ibid (a). Wholesale prices of grains, hay, tobacco and potatoes.
(d) Ibid (a). Wholesale prices of animals and animal products.
(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo.) Ottawa, Monthly.
(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo.) Ottawa, Jan., Apr. and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.
(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.
(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.
(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

THE ECONOMIC SITUATION

Investment Program.—In a report on "Private and Public Investment in Canada, Outlook 1952", presented to Parliament by the Minister of Trade and Commerce on March 31, 1952, it is stated that "The capital expenditure intentions of business, institutions and governments and of individuals for housing involve in total for 1952 an outlay of $5·0 billion. This is exclusive of any expenditures by the Department of National Defence for military equipment. If realized, this program will exceed that of last year by 9 per cent in value. However, since prices are expected to be somewhat higher in 1952, the increase in physical volume terms would amount to about 4 per cent. It means that Canada will be devoting about 22 per cent of her gross national production to the creation of new structures and machinery and equipment."

The Budget.—The annual financial statement of the Minister of Finance was presented to the House of Commons on April 8. According to the statement, revenues in 1952-53 are estimated at $4,279,000,000 compared with $4,003,111,000 in 1951-52 an all-time record. Expenditures are estimated at $4,270,000,000, compared with $3,647,374,000 for the preceding fiscal year. The surplus for 1952-53 is thus expected to be $9,000,000 compared with $355,737,000 for 1951-52.

Of particular interest to agriculture are the reductions in import duties on certain types of farm machinery. Milk driers and evaporators will now enter Canada at 7½ per cent ad valorem instead of 10-22½ per cent and roller bearings for the repair of farm machinery will enter duty free.

Consumer Credit.—Consumer credit restrictions were suspended as from May 6, 1952, according to an announcement made by the Minister of Finance. The Government will ask Parliament to continue the enabling Consumer Credit (Temporary Provisions) Act for a further unspecified period.

Bank Credit.—On May 19, all special bank credit restrictions were eliminated with the exception of restrictions on loans with corporation stock as collateral. The Bank of Canada had informed all chartered banks that the special policies on credit restraint, imposed 15 months earlier, could be suspended. From now on most loans will be governed by the regular banking regulations and the money supply.

Quadripartite Agreement on Sales of Meats.—On May 9, the Minister of Agriculture announced the details of an agreement "reached between the governments of the United Kingdom, New Zealand and Canada whereby Canadian meat will be shipped to the United Kingdom in exchange for New Zealand beef and pork which will in turn be sold through normal commercial channels in the United States . . . The United Kingdom will pay New Zealand in sterling at the existing New Zealand-United Kingdom contract rates, and Canada will receive the proceeds from the sale of the New Zealand produce in the United States. As the New Zealand meat has to be exported frozen it will realize less in the United States than would have been received from the fresh Canadian product. Although there will be a net loss to Canada, Canada has expressed a willingness to recompense New Zealand for the trouble involved in implementing the exchange and the determination of a share for New Zealand in any excess there might be of net United States over sterling proceeds is under consideration."

Cheese.—According to an announcement made by the Minister of Trade and Commerce on April 4, arrangements have been made to pare down shipment of New Zealand cheese into Canada. New Zealand exporters and Canadian importers have agreed to cancel shipment of most of the cheese which was ordered from New Zealand some months before. This arrangement will help to minimize the difficult marketing problems arising from the non-renewal of the British cheese contract, the severe quota restrictions on imports of cheese into the United States, and the embargo imposed by the United States on dairy cattle following the recent outbreak of foot-and-mouth disease.

Beef.—On April 9, the Canadian Government announced a 25-cent-a-pound price-support program for beef. The price floor is based on the delivery of "good" quality steers at Toronto and fluctuates according to grades and different points across Canada. On the same date the parliamentary assistant to the Minister of Agriculture also announced the establishment of a special federal market-management committee to deal with the operation of the price support policy. The current support price will continue until July 1, 1952, and will then be determined on a month-to-month basis.

Initial Prices for Western Wheat, Oats and Barley.—The Minister of Trade and Commerce announced on April 8 that the initial price for wheat for 1952-53 would be at the same level as at the start of the present crop year, namely, $1.40 per bushel basis No. 1 northern wheat in store at Fort William-Port Arthur or Vancouver. The initial prices for oats and barley will also be at the same level as at the start of the present crop year. These prices are 65 cents per bushel basis No. 2 C.W. oats in store Fort William-Port Arthur, and 96 cents per bushel basis No. 3 C.W. 6-Row barley in store Fort William-Port Arthur.

Wheat Exports.—Canadian exports of wheat as grain during the first eight months of the current crop year totalled 169,800,000 bushels, about 67 per cent more than the 101,400,000 bushels exported during the August-March period of 1951. The United Kingdom bought about 55,600,000 bushels, the United States 24,200,000 bushels, Belgium 11,700,000 and Japan 10,800,000 bushels. The remainder was shipped to 33 other countries.

Wheat Supplies.—On April 1 supplies of wheat in the four major exporting countries were estimated at 818,000,000 bushels, almost 19 per cent less than the 1,006,000,000 bushels available at the same date in 1951. Only Canada had more wheat available than a year earlier —402 million bushels as compared with 294 million. Wheat supplies had dwindled from 537 million to 399 million bushels in the United States, from 103 million to 73 million bushels in Australia and from 72 million to 3·7 million in Argentina.

Inventories.—The estimated value of inventories held by Canadian manufacturers at the end of February totalled $3,504 million as compared with $3,574,100,000 for January and $3,577,600,000 for December 1951. Inventories in the consumers' goods industries fell from $2,142,100,000 in January to $2,086,100,000. In the capital goods industries, inventories declined in value from $489,200,000 to $467,500,000. In the producers' goods group they declined from $667,300,000 to $658,700,000 and in the construction goods group they rose from $275,500,000 to $291,600,000.

External Trade.—Canada's domestic export business is maintaining un unprecedented buoyancy. The total value of these exports reached $353,800,000 in March as compared with $290,200,000 in March 1951. The value of total imports, on the other hand, declined from $342,500,000 to $327,000,000.

In the first quarter of 1952, domestic and foreign exports reached a record value of $1 billion, an increase of 22 per cent from the aggregate of $819,600,000 for the first quarter of 1951. The aggregate value of imports declined three per cent to $916,100,000 from $943,900,000.

The United States was still Canada's top customer but Canada obtained her trade surplus only through favourable balances with countries other than the United States. Trade surpluses were recorded with the United Kingdom. The surplus increased to $45,500,000 during March and to $87,400,000 for the first quarter of the year.

Cost-of-Living.—Canada's cost-of-living index declined 0·4 points or 0·2 per cent between March 1 and April 1, 1952. The decrease was from 189·1 to 188·7 and marked the third consecutive decline from the January 1952 peak of 191·5. Lower food prices were the main contributor but clothing and home furnishings also accounted for part of the decrease. The food index dropped from 241·7 to 240·2; decreases were registered for practically all foods except fresh pork, oranges and vegetables. The index of clothing prices declined from 211·2 to 210·4 and the home furnishings and services series declined only fractionally from 200·8 to 200·5.

Employment. — Employment in the major non-agricultural industries at the beginning of March was at almost the same level as in February but at a higher level than at the corresponding date a year earlier. The index number of industrial employment (1935-39=100) stood at 177·9 as compared with 177·8 a month earlier and 172·3 at March 1, 1951. The payrolls index stood at 408·4 as compared with 402·9 at the first of February and 353·8 a year earlier. Salaries and wages averaged $53.91 as compared with $53.19 at February 1 and $48.19 at the beginning of March 1951.

MARKETING MARGINS FOR CANADIAN AGRICULTURAL PRODUCTS, 1935-1951

F. M. SCHRADER

The three and one-half billion dollars spent by Canadians for food in 1951 cover payments to middlemen for marketing food products as well as payments to farmers for producing them. The cost of marketing is made up of payments for performing such necessary functions as transportation, storage, processing and selling. These payments may be resolved into wages and salary, interest on investment, overhead costs on plant and equipment, power and raw materials.

The cost of marketing varies among commodities depending on the extent and type of service performed by middlemen. Wheat in a farmer's granary is a very different product from the bread sold off a baker's wagon. The wheat itself may be stored for long periods of time and shipped over long distances. It is milled into flour and the flour is baked into bread. Numerous types of middlemen handle the product in its various forms and much expensive and complicated equipment and machinery are used. A vast organization has grown up for handling wheat in its various forms and for processing it into flour and then bread. These costs must be included in the price paid by consumers for bread; they represent more than 80 per cent of the retail price. In contrast to these highly processed commodities, others such as potatoes require relatively little handling to prepare them for consumption. Middleman services may involve only storing, grading, wholesaling and retailing. Less than one-half of the retail price of potatoes, for example, is retained by the various marketing agents for services performed.

The average annual costs of marketing—the marketing margins—of nine agricultural products for the 1935-1951 period are presented in Table 1. These products are wheat flour, white bread, beef, eggs, fluid milk, butter, cheese,

Table 1.—Average Annual Marketing Margins for Nine Selected Commodities 1935 to 1951

Year	Wheat Flour	White Bread	Beef Comm. Quality	Eggs All Grades	Fluid Milk	Creamery Butter	Cheese, plain process	Potatoes	Canned Tomatoes	Index 1935-39 =100
	¢–lb. *	¢–lb.	¢–lb.	¢–doz.	¢–qt.	¢–lb.	¢–½ lb. pkg.	¢–15 lbs.	¢–28 oz. tin	
1935	2·6	5·0	6·8	7·7	7·0	12·0	9·0	9·5	9·3	94·6
36	2·5	5·2	7·1	7·3	6·5	11·8	9·7	11·5	10·0	99·3
37	3·1	5·3	6·6	7·1	7·1	12·1	10·5	13·4	11·3	103·6
38	3·6	6·0	7·8	7·3	7·5	12·8	10·9	9·1	9·7	101·8
39	2·6	5·6	7·7	7·0	7·0	11·3	10·0	10·8	9·3	100·7
1940	2·9	5·7	7·9	7·8	7·1	12·0	11·5	13·5	11·2	110·3
41	2·8	5·7	8·1	9·5	7·1	11·4	13·6	12·6	11·6	110·7
42	3·0	6·0	8·0	12·2	7·0	11·8	16·2	18·1	11·8	124·1
43	3·1	6·0	9·4	13·2	7·3	12·2	15·3	17·2	12·6	130·6
44	2·9	6·1	10·1	11·7	7·1	12·2	15·5	19·4	13·3	137·1
1945	2·4	6·1	10·2	11·2	7·0	12·1	15·6	20·0	13·3	137·9
46	2·1	6·0	10·2	11·0	7·0	12·5	15·6	19·5	13·2	136·9
47	2·7	6·7	11·1	10·5	7·1	13·3	15·7	22·7	16·0	151·1
48	3·6	8·1	12·7	12·0	7·9	14·1	18·1	27·7	22·0	178·6
49	4·1	8·4	17·5	15·4	8·2	15·4	20·4	26·6	16·8	197·7
1950	4·3	9·0	18·4	14·6	8·3	15·0	20·8	28·8	14·8	204·1
51	4·6	10·0	22·9	16·2	9·4	19·0	21·8	25·7	20·6	231·3

* Including Participation Payment.

potatoes and canned tomatoes. They represent the main groups of farm commodities produced in Canada. Their retail cost makes up almost one-half of the family food bill. In addition, they are used in the important industries handling and processing agricultural products.

Marketing margins were computed[1] by deducting from the retail price the farm value of that quantity of the farm product used in producing one unit of the finished commodity as sold in retail stores. For example, the farm value of 1·92 pounds of live steer was deducted from the average retail price of one pound of beef. By-product allowance, shrinkage, waste and conversion of the form of the farm product account for the difference between farm and retail quantity.

The marketing margin for each of the commodities increased during the period 1935 to 1951. However, the margins for some commodities increased much more than for others. It rose from seven cents to 9·4 cents for a quart of milk, from 12 cents to 19 cents for a pound of butter, and from 2·6 cents to 4·6 cents for one pound of flour. The margins for the remaining products doubled or even tripled from 1935 to 1951.

Table 2.—Farm Shares as Percentage of Retail Price for Nine Selected Commodities 1935 to 1951

Year	Wheat Flour	White Bread	Beef Comm. Quality	Eggs All Grades	Fluid Milk	Creamery Butter	Cheese, plain process	Potatoes	Canned Tomatoes
	*				— percentage —				
1935	31·6	12·5	51·1	70·9	33·1	58·2	27·6	50·8	15·8
36	38·8	15·5	48·6	74·2	37·0	60·5	26·6	62·8	15·1
37	41·0	19·1	57·7	74·6	34·5	62·9	26·3	53·3	14·0
38	24·8	10·6	50·7	75·0	34·0	62·0	25·7	57·3	15·5
39	28·0	9·7	54·8	74·6	35·4	61·4	27·4	62·5	15·6
1940	27·3	10·0	57·0	72·5	37·3	61·8	27·0	56·0	14·2
41	28·6	10·6	61·2	70·3	40·0	70·1	28·0	55·2	15·9
42	31·7	12·0	65·5	69·7	44·5	71·7	31·6	57·5	17·0
43	37·5	15·3	65·0	71·0	44·5	73·8	33·9	63·9	17·9
44	45·9	17·1	63·8	72·2	47·6	74·5	35·0	57·6	18·5
1945	54·8	17·3	64·0	73·7	48·9	74·7	33·6	61·5	20·0
46	60·0	18·3	64·9	76·7	50·6	75·9	36·1	62·4	20·8
47	54·5	17·5	65·4	77·9	53·6	77·0	36·9	55·9	18·8
48	45·4	16·9	70·2	78·9	54·6	80·5	39·2	54·4	15·0
49	44·1	17·9	64·3	73·8	54·5	76·4	33·6	49·4	20·6
1950	41·5	16·8	68·1	72·9	54·7	75·4	30·8	44·7	22·1
51	39·4	15·0	68·2	76·8	51·7	72·3	34·5	51·7	16·9

* Including Participation Payment.

The year to year changes in the marketing margins have been summarized in an index of marketing costs shown in Table 1. This is an average of the cost of marketing the nine representative food items weighted according to the importance of each item in the Dominion Bureau of Statistics 1947-1948 food budget of middle income city families. It is seen that the cost of marketing domestic agricultural products consumed in Canada increased gradually from 1935 to 1944, levelled off for three years and then rose sharply during the post war period. In 1947 marketing costs were about 50 per cent above prewar and by 1949 they were almost double prewar. A less rapid rate of increase occurred between 1949 and 1950 but in 1951 marketing costs had risen to 231 per cent of the 1935-39 average.

---

[1] For details see *Marketing Margins for Selected Agricultural Products 1935-49,* by W. F. Hillhouse and F. M. Schrader. (Mimeo.) Ottawa, Canada Dept. of Agriculture, Economics Div. 1950.

The proportion of the retail price received by farmers for their part in producing each of the nine food items is indicated in Table 2. For some products, such as potatoes and eggs, farmers have received a fairly constant percentage of the retail price. This is largely because marketing margins are made up almost entirely of buying, selling and storage costs. The mark-up by the retailer and the wholesaler is determined as a percentage of the cost. In contrast, the margins for other commodities are made up, to a great extent, of actual costs of transporting and processing the original farm product. Such costs may change more slowly than prices of farm products. As a result the farm share of the retail price of such commodities as milk, butter and bread increased gradually from 1935 to a peak in the late 1940's and then gradually declined.

PERIODIC MOVEMENTS IN HOG POPULATIONS

G. E. Woollam

The number of hogs on farms in Canada fluctuates considerably and may even double over a period of a few years. The extreme variations which occurred during the last 50 years have exhibited a variety of patterns, some of which have recurred with a considerable degree of regularity.

The most striking phenomenon consists in the year-to-year variation caused mainly by changes in the relationship between hog prices and feed prices. Another characteristic occurrence is the well-known five-year hog cycle. This cycle reflects the very nature of hog production itself and the various decisions made by farmers regarding their production plans.

The cyclical movements in cattle numbers on farms are usually associated with opposite movements in hog numbers. One of the basic factors influencing this behaviour is the ease with which the consumer may substitute beef for pork and vice versa. Generally speaking, an increase in human population and per capita consumption of meats will be accompanied or followed by an increase in hog population.

Trends.—In the long run, the trends in hog numbers are determined by the long-term domestic demand for hog products. The domestic demand, in turn, depends upon changes in human population, levels of living, and consumers' preferences. Canada's population has increased from seven million in 1908 to about 14 million in 1951. In relation to human population, the hog population has shown a marked downward trend with approximately 50 hogs for each 100 persons in 1908 and a gradual decrease to 32 hogs per 100 persons in 1938. This trend, however, was halted in the war years due to a rapidly increasing domestic and foreign demand for pork and pork products and an abundance of feed grains with which to feed the hogs. The levels of living have also risen and have led to an increase in meat consumption; but in the period before the war there was little evidence of an increase in per capita consumption of pork. Any annual increase recorded was of a temporary character and meant the substitution of pork for beef.

Chart I pictures the trends in hog numbers from 1908 to 1951. The 1908-1938 trend line was drawn by inspection and then extended through to 1951. During the war period hog numbers were well above the long-term trend. High employment and income levels and price controls led to a considerable increase in the domestic demand for pork products. The loss by the United Kingdom of some of its sources of supplies of pork products strengthened the overseas market for Canadian production. On farms, limited outlets for large feed supplies and satisfactory hog prices in relation to feed grain prices produced conditions highly favourable to hog production. These conditions and the ready response to patriotic appeals for increased production led to a record of over eight million hogs in 1943. Per capita consumption of pork declined during the postwar years but still remains well above prewar levels. This is due, in the main, to high incomes and low pork prices in relation to beef.

During the 1908-1938 period, the trend in hog numbers was generally upward. However, there were some irregularities. The 1939 increase, in particular, does not conform to normal expectations based on the five-year hog cycle and the hog-

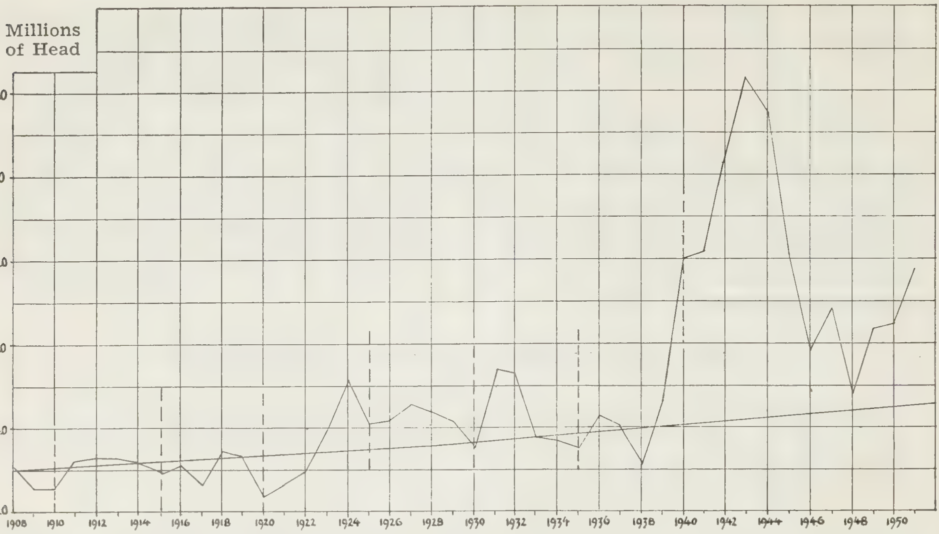


Chart I—Trends and Cycles in Hog Numbers.
(June 1st Population—1908 to 1951)

feed ratio. Part of the increase may be attributed to farmers' anticipations in the light of a tense international situation but the major part of the increase is more likely due to the falling-off in cattle numbers, a situation creating better prospects for the hog industry.

The regional patterns of hog production have changed over the years. From 1908 to 1934, the pronounced downward trend in hog numbers in Eastern Canada coincided with an upward trend in Western Canada (Chart II). From 1934 to 1939, the trends followed the opposite direction.

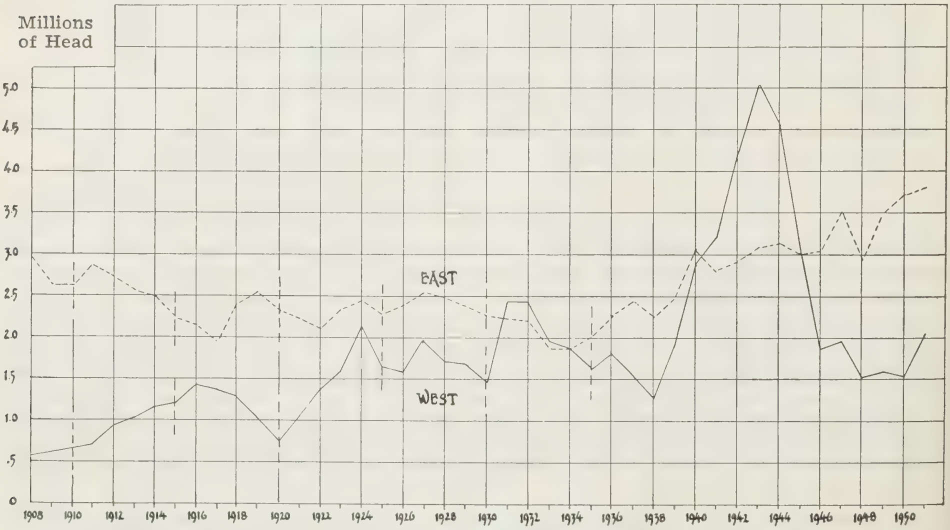


Chart II—Hog Numbers—Eastern and Western Canada, 1908 to 1951.

In Eastern Canada, hog raising is generally regarded as complementary to the dairy enterprise in the farm organization. The rapid growth in urban population, however, has called for increased supplies of fluid milk and dairy products. Hog production has had to depend more and more on supplies of coarse grains as a source of feed and this dependence on coarse grains has created conditions contributing to the downward trend in hog production. In Western Canada, the upward trend was influenced by the breaking and seeding of new land to grain and the inflow of immigrants accustomed to hog raising. Hog production provided the farmers with an alternative method of marketing their feed grains.

The reversal in Western Canada trends from 1934-38 was the result of a combination of events. Favourable beef prices in relation to hog prices in the early thirties had caused some shifting to beef production. Poor feed crops and higher prices for feed grains and wheat led to decreases in hog numbers.

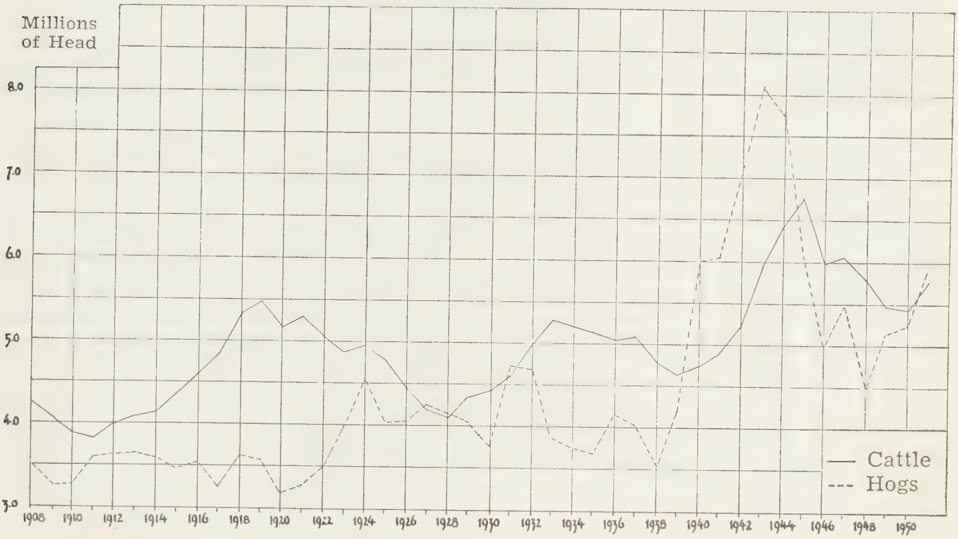


Chart III—Beef Cattle and Hog Numbers on Farms, Canada, 1908 to 1951.

Hog in Relation to Cattle Populations.—In both the long and the short run, consumer demand is the primary factor determining levels of production. When incomes are high, more meat is consumed and pork is likely to enjoy a share of the increase. When pork is cheap relative to beef, more pork and less beef is consumed.

Many years are required to build up an effective increase in herds of cattle. Less time is required to reduce cattle numbers but this process is also carried out at a slow rate. As a result, variations in cattle numbers present a smoother pattern than variations in hog numbers. Changes in demand for pork and pork products call forth a rapid production response which is reflected in an increase in hog numbers.

A large number of cattle usually means large supplies of beef on the market. The larger these supplies, the lower the price to the consumer and the greater the increase in consumption. This increase in beef consumption affects both the consumption and the price of pork, for consumers are then likely to substitute beef for pork. Hog raising thus becomes less profitable and the number of hogs on farms is reduced. On the other hand, when cattle marketings decrease, the prices of all kinds of meat tend to rise. Hog production then increases and as it does, pork becomes cheap in comparison to beef and more pork is consumed.

Cattle and hog population series are plotted in Chart III. The graph shows an inverse relationship between hog numbers and the cattle cycle. The period from 1940 to date does not lend itself to the study of normal cyclical variations in cattle and hog populations. During the war livestock programs were based on military and other Allied needs and the strong foreign and domestic demand called forth a record livestock production. A significant reduction occurred during the postwar period but production has remained above prewar levels. With the lifting of the embargo on exports to the United States it is likely that future variations in the hog population will be greatly influenced by the United States supply situation.

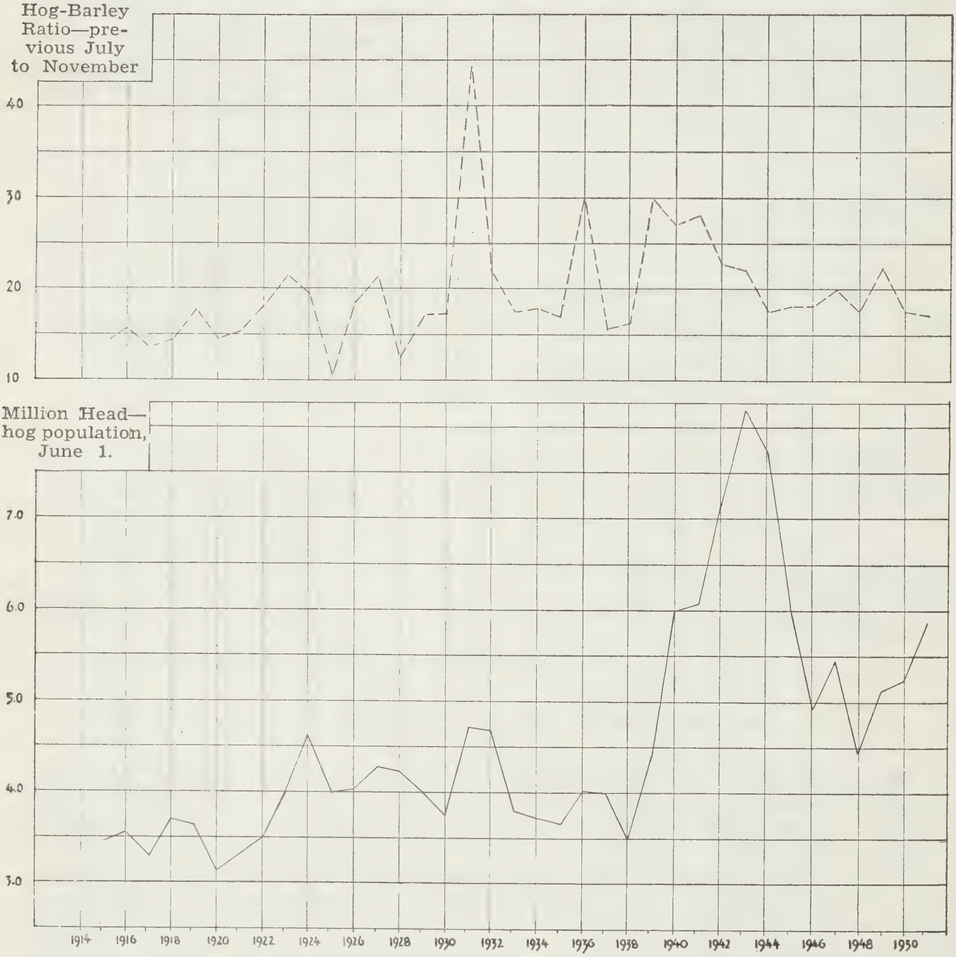


Chart IV—Hog-Barley Ratio and Hog Population, Canada, 1915 to 1951.

Short Term Movements.—The dotted vertical lines in Chart I act as dividing lines between successive five-year periods. These lines actually separate various five-year hog cycles reflecting supply and price relationships.

Low pork supplies are associated with high prices and profitability in hog production. Some farmers expand their hog-raising programs and, if returns promise to be attractive, other farmers are encouraged to follow their example. Three to four years are usually required before production exceeds purchases at prices high enough to bring profitable returns to the producers. A reduction in number of herds then follows and some farmers may even drop out of the hog business completely. In the fifth year, supplies have reached a low point and another similar movement is generated in the hog production pattern. This movement originates at various levels of production, the particular level being determined chiefly by the supplies of beef available.

On a regional basis the five-year cycle is not so clearly defined (Chart II). Hog population tends to move in opposite directions in Eastern and Western Canada, increases in the West being partially offset by decreases in the East and vice versa. This interaction or interdependence tends to blur the regional short term cycles.

In Western Canada the size of the hog population depends mostly on prices, grain supplies and cattle raising programs. These factors do not appear to have as great an importance in Eastern Canada. So a reduction in hog numbers in Western Canada as a result of a shift to grain or cattle production is counterbalanced, in part, by an increase in hog numbers in Eastern Canada. The Eastern farmer's response is motivated by an anticipation of smaller total supplies and better prices. Fluctuations, however, occur within narrower limits in Eastern than in Western Canada. The hog enterprise is an inherent part of the mixed types of farming prevailing in Eastern Canada. There are few large-scale specialized hog farms in that area and little tendency for farmers to move into or out of hog production.

Annual Variations.—The size of the hog population on June 1 in any one year represents the results of the breeding programs of the previous fall months. Many factors influence the farmer's decisions relative to his breeding program. The price of hogs in relation to the price of feed is an indicator of the relative profitability of the hog business. When feed supplies are abundant the farmer is likely to convert more of his feeds into hogs and thus increase the marketability of feed grains. The farmer's financial situation is another important factor bearing on his decisions as to changes in his hog programs. If he enjoys a large income he is less likely to go to the trouble of raising hogs as a means of raising his income than he would if his income or prevailing economic conditions were such as to incite him to tap all possible sources of income. Of course, the farmer frequently considers the profitability of hog farming in relation to other farm enterprises. High wheat prices, for example, would encourage many farmers to shift from barley to wheat and to curtail or discontinue hog production.

Feed prices in relation to hog prices constitute the main factor responsible for year-to-year variations in the size of hog population. Chart IV illustrates the changes in hog population in relation to the hog-barley ratios, the annual hog numbers being plotted against the hog-barley ratio just prior to and at the time of breeding. The ratio prevailing from July to November usually determines, to a large extent, the hog population pattern of the following June with favourable ratios contributing to an increase in hog numbers.

Farm income, feed supplies and the hog-barley ratio determine the number of hog slaughterings and account for 95 per cent of the year-to-year variations in these slaughterings[1]. Drought and wars are other important factors. In 1937, for example, the drought severely affected feed grain supplies and led to a sharp drop in hog numbers in 1938. During the World War II period, on the other hand, hog production reached unprecedented levels. The period following the war has been one of instability. The loss of the British bacon market, the lifting of the embargo on beef exports to the United States and increased domestic consumption have interrupted, at least temporarily, a return to pre-war production patterns. The long-term trend, however, will likely continue upwards although some change may develop in the slope of the trend line. If present conditions continue, it is likely that patterns similar to those of the pre-war period will emerge and that Canadian hog production will be more closely related to livestock production in the United States.

---

[1] "Factors Affecting Variation in Hog Slaughtering" (unpublished manuscript). F. M. Schrader. Ottawa, Canada Dept. of Agriculture. Economics Div.

ECONOMIC ASPECTS OF TRACTOR USE IN ONTARIO AND QUEBEC

J. A. DAWSON

Ontario and Quebec farmers have mechanized their farms at a rapid rate since the end of the war. Depressed economic conditions during the 1930's and rationing of farm machinery during the war acted as a brake on progress in mechanization. But since the war, increasingly acute farm labour shortages and high levels of farm income have proven a stimulus to farm mechanization. This is well evidenced by the considerable increase in the number of tractors on Ontario and Quebec farms. Tractors have brought great savings in labour to the grain farmers of the Prairie Provinces. Most of the Ontario and Quebec farms, however, are mixed farms with livestock as the basic enterprise and the largest share of the labour resources allotted to this enterprise. Only a minor part of the labour is used in growing crops and a problem thus arises as to the economic justification of tractor use on the smaller farms of these two provinces.

A clarification of this problem may be obtained through an analysis of the data collected during a study of farm mechanization conducted in six different areas of Ontario and Quebec during the summer of 1950.[1] Records were obtained from 147 Ontario farmers located in the western section of Carleton County, the northern part of York County, and the southern part of Bruce County. In Quebec, information was secured from 150 farmers in Chateauguay and Arthabasca Counties and the Lac St. Jean area. No attempt was made to obtain a sample representative of the entire situation in each of the two provinces. Farms were selected in some of the better dairy farming areas in the two provinces with a view to providing a wide distribution of farms according to size and type of mechanization.

In all of these areas only a small number of farms were operated with tractor power before the war. In 1941, only 32 per cent of the farms visited in Ontario and 13 per cent of those in Quebec had tractors but in 1950 the proportion had increased to 85 per cent in Ontario and 47 per cent in Quebec. These farmers have had tractors for only a few years and are not yet fully converted to tractor farming. They use a considerable amount of horse-drawn machinery with the tractor but still perform many operations with horses only. On the Ontario farms 81 per cent of the tillage machinery, 26 per cent of the seeding and cultivating machinery and 66 per cent of the harvesting machinery were built for use with tractors. On the Quebec farms the corresponding proportions were as follows: 57 per cent for tillage; 16 per cent for seeding and cultivating; and 40 per cent for harvesting machinery.

The 147 Ontario farms had an average of 88 acres and the 150 Quebec farms an average of 72 acres in crops. The crop acreage was higher on the tractor than on the non-tractor farms; it averaged 93 acres on the Ontario and 84 acres on the Quebec tractor farms. Of the Ontario tractor farms eight per cent had less than 50 acres in crops, 56 per cent had from 50 to 90 acres and the remaining 36 per cent had more than 90 acres in crops. A greater proportion of those in Quebec had smaller crop acreages; 20 per cent had less than 50 acres in crops, 49 per cent had from 50 to 90 acres and 31 per cent had more than 90 acres. These figures do not include farms that purchased tractors during the year of the study.

The average machinery, power and labour cost on Ontario tractor farms with less than 50 crop acres was higher than on the same sized "horse" farms but was lower on tractor farms with 50 to 69 crop acres than on "horse" farms with the same crop acreage. On the Quebec farms the average machinery, power and labour cost was higher for tractor than for "horse" farms in all crop acreage groups up to 89 crop acres but tractor farms having from 90 to 109 crop acres had lower average costs. These findings might suggest that the Ontario tractor farms with less than 50 crop acres and the Quebec farms with less than 90 crop acres were not large enough to have tractors. However, caution must be used in the interpretation of these findings. Crop acreage is only one of the items involved in the measurement of the size of eastern Canadian farms; livestock is even more important since most of the crops grown are eventually fed to livestock.

---

[1] A more extensive report on the findings of this study will appear in a bulletin to be published by the Economics Division.

The need of a larger crop acreage for the profitable use of a tractor in Quebec than in Ontario may be explained, at least in part, by the different types of crops grown in the two provinces. In Ontario on tractor farms having from 40 to 70 crop acres, 53 per cent of the crop land was in grain and 41 per cent in hay, whereas on Quebec tractor farms of similar size 38 per cent of the crop land was in grain and 53 per cent in hay. The Ontario tractor farms thus cover a larger acreage with their machinery.

How do tractor and "horse" farms with similar crop acreages differ in their organization patterns? An answer to this question can be found through a comparative analysis of crop programs, livestock numbers and labour supplies. Information obtained during the study indicates that the Ontario tractor farms which had from 40 to 70 acres in crops had a slightly greater proportion of that crop land in grain than had the "horse" farms; they had fewer horses but considerably more livestock and about the same amount of labour. The Quebec tractor farms with the same acreage in crops, had more acres in grain and less in hay than the "horse" farms. They had fewer horses but about the same amount of other livestock and a slightly smaller supply of labour than the "horse" farms. Another significant difference in the organization of these two types of farms consisted in the more thorough working up of the land on the farms with tractors.

How does tractor power compare with horse power in the use of labour? The data provided in Table 1 were collected for the purpose of evaluating the respective merits of these two types of power in the utilization of labour. They relate to the number of hours of labour per acre involved in the performance of certain operations using tractors and horses. According to this information considerable labour savings can be made with the use of tractors in some of the main field operations. This statement of course, does not apply to all field operations. Hay raking and grain binding, for example, require about as much man labour when done with a tractor as when done with horse power. Much less labour, however, is required when plowing with a tractor and, to a lesser extent, this also applies to other tillage operations.

Table 1.—Hours of Labour per Acre for certain Field Operations with Tractor and Horse Power, on 297 Farms in Ontario and Quebec, 1949

Operation	Ontario		Quebec	
	Tractor Power	Horse Power	Tractor Power	Horse Power
	—hours per acre—			
Moldboard plowing	1·4	4·8	1·5	6·1
Seeding grain	0·5	0·8	0·7	1·0
Row cultivating	0·9	1·4	1·2	1·8
Mowing hay	0·6	1·1	0·6	1·1
Raking hay	0·4	0·5	0·7	0·6
Binding grain	1·0	0·9	1·6	1·7

These rates apply to tractor-pulled machinery although, in many cases, this machinery was not designed for use with a tractor. Much of the tractor work, especially hay and grain harvesting work is done with horse-drawn machinery hitched to a tractor; the only advantage then derived from the use of the tractor consists in the higher speed with which operations can be performed. An additional man may have to be employed. Too much speed may result in some breakdowns and an inevitable loss of time on repair work. If the machines were all of a type designed for use with tractors, the advantage of tractor power would be much greater because of the possibility of using the power-take-off and hydraulic lift.

The average number of acres covered for each of the main field operations was determined for the 147 Ontario farms. With the exclusive use of the tractor, 357 hours of labour would have been required; with the exclusive use of horse power, on the other hand, 822 hours would have been needed or slightly more than double the time with the exclusive use of tractor power. The corresponding number of hours for the 150 Quebec farms was 221 for work with the tractor and 447 for work with horses. Here again, twice as much time would be required for horse as for tractor work. The actual difference, however, is not as great as indicated because some tractor farms make considerable use of horses as a source of power and operators of "horse" farms hire tractors, particularly for such jobs as plowing where saving of labour can be considerable. It must also be added that the acreage is worked over less frequently on "horse" than on tractor farms.

In all of the areas visited it is a common practice to use horses for seeding, row cultivating, and some harvesting work, particularly haying. Tractors are used in field work mainly for tilling and grain binding. They are also used with hay balers, threshing mills, ensilage cutters and feed grinders. Only seven of the 147 Ontario farms and none of the 150 Quebec farms were operated entirely without horses.

In 1949-50 on the average tractors were used 378 hours per farm on the Ontario farms and 376 hours per farm on the Quebec farms. In computing these figures account was not taken of the nine tractors share-owned by Quebec farmers. These tractors were used an average of 212 hours per farm, the average being based on the use made of the tractor by one of two share-owners in six cases, one of three share-owners in another case, and one of four share-owners in the other two cases.

The average number of months of labour on the 117 Ontario farms that had purchased tractors before the year under review was 24·0 as compared with 17·9 months for the 22 "horse" farms. The tractor farms had more crops and more livestock; they also had more labour, and a greater proportion of this labour was hired than on the "horse" farms—31 per cent of the total supply as compared with 16 per cent. There was very little difference in the seasonal distribution of labour between the two groups, but for both groups the labour supply was somewhat higher in the summer months, particularly in July and August. The range was from 7·6 per cent of the total in the winter months to 10·3 per cent in August for the tractor farms and from 7·9 per cent to 10·2 per cent for the "horse" farms.

Table 2.—Proportion of Specified Field Operations Performed with Tractor Power on 297 Farms in Ontario and Quebec, 1949[a]

Operation	Ontario 147 Farms	Quebec 150 Farms
	—per cent—	
Plowing	79	45
Harrowing	62	37
Seeding grain	24	7
Row cultivating	17	6
Mowing	37	12
Raking	16	3
Binding grain	68	35

[a] Hired machine work is not included.

The 59 tractor farms in Quebec averaged 24·4 months of labour as compared with 21·7 months for the 79 "horse" farms. In Quebec the tractor farms have larger acreages in crops but about the same amount of livestock as the "horse" farms. Of the former group 19 per cent of the labour was hired as compared with nine per cent for the "horse" farms. As in Ontario the seasonal labour distribution was about the same in the two groups. The main difference between the farms visited in the two provinces was that the peak month of labour was July in Quebec and August in Ontario. The greater proportion of crop land in hay on the Quebec farms accounts for this difference.

According to the analysis of the information obtained and the observations of the enumerators it would seem that not very many of the farms with small crop acreages can afford the cost of purchasing and owning a tractor. Several of the small farms in Quebec have met the problem by purchasing tractors on shares but this has generally been limited to arrangements with relatives. Another possibility would consist of owning a tractor and doing a considerable amount of custom work with it. Rates for custom work, however, were not high enough in the areas visited to encourage this practice. The usual rate for plowing in the three areas visited in Ontario was $3.00 per acre. This rate applied to the tractor, the plow and the man. On an hourly basis the rate would be $2.14 assuming that it takes 1·4 hours to plow an acre. The average cost of owning and operating a tractor in Ontario was $1.17 per hour which left 97 cents to cover the cost of the plow and the time of the man without considering the cost and time of travelling to and from the place of work. In Quebec, plowing was usually done on an hourly basis and the most common rate was $2.50 per hour. The average cost for the tractor was $1.05 per hour leaving $1.45 for the other costs. Thus there is little inducement for farmers to do custom work particularly because there the demand for custom work generally arises just at the time when farmers are very busy on their own farms. If tractors are to be used on the small farms, some profitable means of increasing their use must be resorted to, whether it be share-ownership, or doing custom work. In any event tractors will be used on many small farms in spite of the costs involved because they provide the only possibility of completing certain types of work at the proper time.

CO-OPERATIVES IN NEWFOUNDLAND, 1950, PART I

J. E. O'MEARA and H. K. INGERSOLL

With the entry of Newfoundland into the Canadian Confederation on March 31, 1949, a considerable group of co-operative societies was welcomed into the Canadian co-operative fold by co-operators in the other nine provinces. In Newfoundland co-operatives are not as numerous and do not have as large a membership as in the other provinces. But during the regime of the Commission of Government a solid basis was laid for the foundation and expansion of the co-operative movement. As early as 1934, at the suggestion of the late Sir Wilfred Grenfell and with the support of the Co-operative Union of Great Britain, Miss Margaret Digby of the Horace Plunkett Foundation went to Newfoundland to study and report on opportunities for co-operative development.[1]

In 1936, after completion of the study and presentation of the report, the government established a Co-operative Division and appointed a Director of Co-operation. The task of the Division was to motivate the people of Newfoundland through adult education and study groups to organize co-operative societies for the provision of credit, the marketing of natural products and the purchase of supplies.

The Co-operative Societies Act was passed in 1939 in order to facilitate the establishment of these societies. The various types of co-operative organizations are incorporated under this Act. This legislation is of a type which differs from co-operative legislation in most other provinces in that it allows credit unions and co-operatives to incorporate under the same Act. In these other provinces credit unions are generally incorporated under distinct legislation, and not under the Act enabling co-operative societies to engage in marketing or purchasing activities.

Under the Co-operative Societies Act, the Registrar is the chief government official. He issues the charters or certificates of incorporation and receives annual returns from individual co-operative societies. Among other purposes, these returns serve in the compilation of statistics on co-operative activities. Registration work began in January 1940. By August of the same year, 83 societies had been organized and 40 of these had been registered. Of those registered, 22 were credit societies and 18 were described as general-purpose societies.

By 1946 the registered organizations comprised 59 credit societies and 23 consumer societies. There were also 74 unregistered groups known to be operating as co-operatives at the end of December of the same year.

When Newfoundland became a province of Canada its new government announced the establishment of a Department of Fisheries and Co-operatives to be administered by a responsible Cabinet minister. In November 1949, the new department sponsored a meeting of co-operative leaders, field workers, managers and directors, for the purpose of planning co-operative development in the province. The Conference was opened by the provincial Premier who promised the support of his government to Newfoundland co-operatives. Another Conference was held a year later and decisions taken at that Conference led to the creation of the Co-operative Union of Newfoundland.

---

[1] Digby, Margaret. *Report on the Opportunities for Co-operative Organization in Newfoundland and Labrador.* London. P. S. King and Son Ltd. 1934.

With the assistance provided by the Department of Fisheries and Co-operatives through the office of the Registrar, statistics and other data on the development of co-operatives in the new province have been made available for the year 1949-50. During that year there were 44 co-operatives, 82 co-operative credit societies and one central co-operative credit society in existence. A co-operative insurance society provided loans and life savings insurance to the credit societies. All of these societies are registered under the Co-operative Societies Act but there exists another society operating under a different Act. Besides these officially registered societies a number of unregistered groups were providing credit services, operating consumer stores and buying clubs, and marketing lobsters. The present article deals only with the registered marketing, consumer and service co-operatives. Thus, the total number of co-operatives described in this article is 45, including the society which is not registered under the Co-operative Societies Act.

Balance Sheet.—A combined balance sheet for these 45 societies is presented in the following Table.

Combined Balance Sheet of 45 Co-operative Societies in Newfoundland, 1949-50

Assets		Liabilities	
Cash on hand and in bank or credit union	$ 207,779	Bank and credit union loans	$ 31,200
Receivables less allowances for bad debts	170,152	Accounts payable	429,441
Merchandise on hand	627,374	Accrued expenses	3,904
Other current assets	500	Other current liabilities	81,337
Total Current Assets	**$1,005,805**	**Total Current Liabilities**	**$ 545,882**
		Surplus allocated to members	$ 3,442
		Share capital and fees	653,690
		Reserves not allocated	109,161
		Undivided surplus	12,334
Plant, less allowance for depreciation	$ 317,893	Net Worth	775,185
Other assets	811	Members' Equity	778,627
Total Assets	**$1,324,509**	**Total Liabilities**	**$1,324,509**

The liabilities side of the balance sheet was constructed to indicate the division between liabilities to members and liabilities to the public. Total current liabilities represent liabilities to the banks and to the trade and other creditors and amounted to $545,882, or 41·2 per cent of total liabilities. This means, in effect, that 58·8 per cent of the liabilities represents members' equity, a favourable ratio since the members actually have more money invested in their societies than have other creditors.

On the assets side the two most important items are the accounts receivable and the fixed assets. The total value of fixed assets, less depreciation, was reported to be $317,893 or 24 per cent of total assets. Receivables amounted to $170,152 or 12·8 per cent of total assets, which cannot be considered unduly high.

Inventory, which amounted to 47·4 per cent of assets, is high, but considering difficult local supply and transportation conditions, it cannot be considered excessive.

The figures provided in the Table can be used to calculate various financial ratios. These ratios may serve as indicators of financial soundness. The most common is the current ratio which is found by dividing total current assets by total current liabilities. Current liabilities can only be paid through liquidation of current assets. So, the higher the ratio the freer the assets are from creditors' claims. There should be enough ready cash with which to pay bills and an equal sum in reserve for use as working capital.

For the Newfoundland co-operatives the current ratio was 1·46 to 1. The ideal or standard ratio, on the other hand, is generally considered to be the 2 to 1 ratio. This indicates a need for the Newfoundland co-operatives to increase their current assets. In many business concerns—co-operative as well as private or corporate—"receivables" are a source of constant worry. The size of these receivables in relation to total current assets provides a measure of the degree of financial strength. When accounts receivable exceed 40 per cent of the current assets, the organization finds itself in a weak position; its ready cash is tied up and remains unproductive. Newfoundland co-operatives, fortunately, were in a very favourable position in that regard. Their receivables amounted to only a little over 20 per cent of their current assets.

Members' equity in total assets is of great importance in co-operatives, organizations which aim to be member-owned and member-controlled. This equity should equal at least 50 per cent of the total assets. In the Newfoundland societies this equity amounted to 58·8 per cent of the total assets. The remainder of the assets was tied up in liabilities to the public, mostly in accounts payable. This is, of course, reflected in the high inventory values on the assets side of the balance sheet. This situation is no doubt brought about by the nature of the country and its dependence on the fishery, an industry which requires high inventories in view of the long winter months and the seasonal nature of the income of the fisherman.

Members' equity should be at least equal to fixed assets or should, preferably, exceed assets by 50 per cent. The Newfoundland co-operatives have an enviable record in this regard. In effect, members' equity in these co-operatives is 2·5 times larger than fixed assets.

Application of these financial tests to the balance sheet of the Newfoundland co-operatives indicates that in the 1949-50 period these co-operatives were, as a group, in a strong financial position. High inventories have to be maintained and this offers a valid explanation for the low current ratio. Accounts payable could be adjusted against cash on hand which amounts to almost 40 per cent of total current liabilities, a higher percentage than what is usually considered to be necessary.

Merchandising.—Sales made by Newfoundland co-operatives selling supplies and consumer goods to their members totalled $2,366,352 in the 1949-50 period. Gross surplus amounted to $387,362 or about 16 per cent of the volume of sales, and net surplus to $62,368 or 2·7 per cent. In his most recent report the Registrar noted that 24 societies had paid patronage refunds ranging from two per cent to as high as 15 per cent on purchases made by the members, the average refund being 6·3 per cent. The other societies operated at a loss or retained surpluses against previous or current deficits.

Marketing.—Total sales of fish and fish products and of some agricultural products amounted to $464,925 during the 1949-50 period. Twelve societies marketed such products as herring, salmon, codfish, cod oil, lobster, seals, lumber, berries, meats and vegetables.

Gross surplus from the sales of these products equalled $92,526 but operating costs were high and marketing operations registered a net loss for the year.

THE PRODUCTION OF MAPLE SYRUP ON ONTARIO FARMS

D. J. Packman

Most of the *sugar bushes* of Ontario are remnants of the old hardwood forests which have been reserved for maple syrup production, because of the dominance of maples in the stand.

The maple crop is produced in a limited area although a few sugar maples may be found on almost all Ontario farms. The production of maple products is concentrated in Southern Ontario and the areas of Southwestern Ontario adjacent to Georgian Bay and Lake Huron, where large concentrations of sugar maple may be found (Figure 1). In terms of numbers of trees and value of production during 1940, Leeds County was the most important, followed by Lanark, Glengarry, Hastings, Frontenac and Simcoe Counties.

Production has declined rather steadily over the years (Figure 2). Weather is perhaps the most important limiting factor, the production of sap depending upon the weather at sap time. A long period of relatively warm days and cool nights from early March into mid-April results in abundant yields. On the other hand, long cold spells or early warm spells reduce the output. Once the maple buds are opened, the harvest is over. The low production during the years 1946, 1948, 1949 and 1951 may be largely attributed to unfavourable weather conditions at harvest time.

It will be noted in Figure 2 that the year-to-year price changes for maple syrup followed the same trend as the general price level and not the year-to-year fluctuations in production. The price of maple syrup in Ontario declined fairly steadily from 1925 to 1938 but has been increasing since that time with the exception of the war years when price controls were placed upon the product.

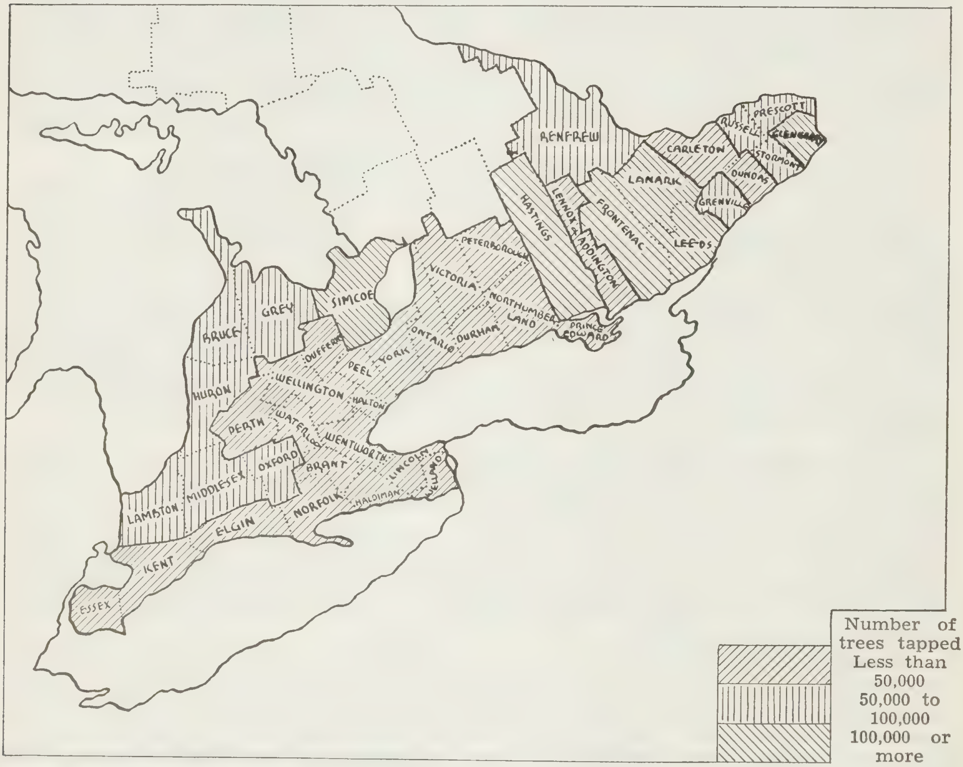


Fig. 1—Maple Trees Tapped, by Counties, Southern Ontario, 1940.
Source: *Census of Canada,* Vol. VIII, Agriculture. 1941.

Farms Producing Maple Syrup.—During the months of June and July 1951 an economic survey of farm forestry operations on 162 farms in the Townships of Roxborough, Lanark, Hungerford, Hope, Tecumseh, Arran, Waterloo and Lobo was carried out by the Economics Division, in co-operation with the Ontario Department of Lands and Forests.

Of the 162 farms visited, only 38 produced maple syrup during the crop year ending May 31, 1951. These farms hung an average of 449 buckets and produced 67·7 gallons of maple syrup valued at about $290. The largest concentration of maple syrup producers visited was a group of 15 farmers in Lanark Township, in the northern part of Lanark County, and eight farmers in Lobo Township, in the south-western region. In the remaining townships, the number of farms reporting production of maple products ranged from one to four.

Information relating to production requirements such as equipment, labour, fuel and containers was obtained from 30 farmers. The other eight farmers did not provide information either because of lack of reliable data or because of the smallness of their maple enterprises.

The largest single expense item was a $50 allowance for maple syrup equipment, depreciation and repairs (Table 1). The average investment in maple syrup equipment on farms producing maple syrup was $402 on June 1, 1950. The evaporator accounted for $180, an average of 449 buckets on hand made up $140, and miscellaneous items, including a maple syrup house, $82. An allowance of $20 was made for interest on investment in equipment. This, together with depreciation, made up an average charge of $70 for the use of maple syrup equipment for the 1951 maple syrup crop year.

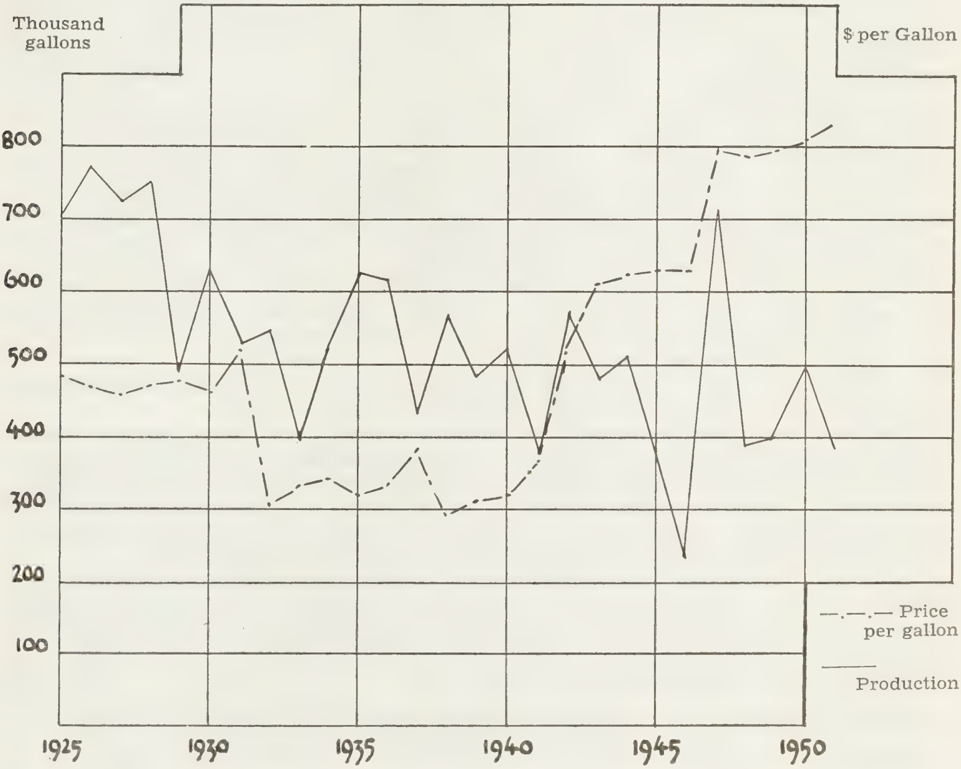


Fig. 2—Maple Syrup Production and Price, Ontario, 1925-51.
Source: *Quarterly Bulletin of Agricultural Statistics.*

Fuel was an important item of expense on most of the farms studied and averaged $38 per farm. Two farms reported the use of coal but most of the remaining farms made use of low quality non-salable wood which would otherwise be wasted. A charge was made for the use of machinery, including tractors, sleighs, stone-boats, and power saws, and the use of horse labour, amounting to about $27 per farm. Since much of the maple syrup was sold to neighbours and friends who supplied their own containers, the average cost of this item was not large. The average farm utilized about 45 one-gallon containers valued at 35 cents each.

Excluding man-labour, taxes, and interest on the investment in the maple bush, the total cost involved in the production of maple syrup averaged $150 per farm. The value of the 78·4 gallons of syrup produced per farm was $335, leaving a net

Table 1.—Summary of Maple Syrup Costs and Returns, 30 Farms, Ontario, 1951

Item	Average	
	Per farm	Per 100 buckets
	— dollars —	
Costs[a]		
Equipment depreciation and repairs	50·03	11·14
Interest on investment in equipment	20·09	4·47
Fuel	37·79	8·42
Machinery and horse labour	26·54	5·91
Containers	15·83	3·53
Total	**150·28**	**33·47**
Returns		
Value of production	335·37	74·69
Returns per hour of labour	·84	....
Returns per 100 buckets	....	41·22
Hours of labour	221·6	49·4

[a] Excluding taxes, man-labour and interest on investment in the maple bush.

income of $185. On the average, 221·6 hours of labour per farm were required in the production of maple syrup. The net returns to labour from the maple syrup enterprise, therefore, averaged 84 cents per hour.

Based on an average of 449 buckets hung per farm, the production of syrup in 1951 amounted to 17·4 gallons per hundred buckets. The average production expenses were $33.47 per hundred buckets hung, while the net return for the use of labour and maple bush averaged $41.

On the basis of 1·2 buckets per tree, the average tree tapped produced about 0·21 gallons of syrup or a net return of about 49 cents per tree.

Relation of Returns to Size of Enterprise.—In order to determine the relationship of size of enterprise to returns, the farms were divided into three groups of ten, on the basis of volume of production, and the costs and returns per hour of labour calculated. The group producing more than 90 gallons of maple syrup had returns of $1.04 per hour of labour as compared with 53 cents for the group producing 12 to 40 gallons and 65 cents for the farms producing from 41 to 90 gallons.

Although the average enterprise studied utilized 449 buckets, the number of buckets actually ranged from 50 to 2,200 per maple bush. Farms producing from 12 to 40 gallons of syrup used an average of 139 buckets per farm. The average for the farms producing from 41 to 90 gallons was 365 buckets and for those producing 91 gallons or more, 842 buckets per farm.

Table 2.—Relation of Size of Enterprise to Returns from Maple Syrup Operations, 30 Farms, Ontario 1951

Item	Average Number of Gallons of Syrup per 100 Buckets		
	12-40	41-90	91 or more
		— dollars —	
Costs[a]			
Depreciation and repairs	15·55	13·46	9·42
Interest on investment in equipment	5·98	5·55	3·76
Fuel	13·81	8·81	7·37
Machinery and horse	6·59	7·15	5·27
Cost of containers	1·04	3·10	4·13
Total Cost[a]	**42·97**	**38·07**	**29·95**
Investment in equipment	119·00	111·00	75·30
Hours of Labour	95·8	53·5	40·0

[a] Cost items do not include labor, taxes, and interest on investment.

The savings realized with a large scale enterprise may be attributed to the more efficient use of labour. Only 40 hours of labour were required per hundred buckets on farms making more than 91 gallons of syrup. Farms producing between 41 and 90 gallons of syrup used 54 hours of labour per hundred buckets, whereas those producing less than 40 gallons required 96 hours.

Some savings, however, do come about through a more efficient use of machinery and equipment, fuel and containers, etc. For the three groups of farms the total cost, other than labour, taxes, and interest on investment in the maple bush, amounted to $42.97, $38.07 and $29.95 per hundred buckets, respectively.

Labour Requirements.—The average farm for which information on costs was available, produced 78·4 gallons of syrup requiring 221·6 hours of labour, or 2·8 hours per gallon of syrup. The task of evaporating the sap into maple syrup took the largest amount of labour or 88·9 hours per farm. This job included the cleaning of the evaporator, starting and stoking the fire, and attending to the task of evaporating the sap. Other labour requirements were as follows: 82·8 hours for gathering the sap, 20·2 hours for tapping, 24·5 hours for cleaning up and putting away the equipment for winter, and 5·2 hours for miscellaneous work.

Summary.—The farm maple syrup enterprise was relatively profitable for most of the farmers visited during 1951. Many farmers found that they have a certain amount of underemployed family and hired labour during the months of March and April which can be employed profitably in the maple bush. Likewise, the farm team and certain equipment may be effectively employed; low quality non-salable wood may be utilized and many farmers stated that they derived a real aesthetic satisfaction from activities connected with the production of maple products.

RECENT CHANGES IN POTATO VARIETIES GROWN IN PRINCE EDWARD ISLAND

G. C. Retson and E. S. Eaton

In recent years many changes have been made in the organization and operations of the potato farms of Prince Edward Island. One of the most notable of these changes pertains to farmers' preferences for different varieties of potatoes.

In order to evaluate the extent of these changes the Economics Division in 1951 conducted a study of potato production in the Island. The 95 farmers taking part in the study were selected from a list of potato producers who had provided data for another study made in 1946. Comparison of the data for these two years makes possible an appraisal of the changes that have taken place.

On these farms the potato acreage ranged from four to 15 acres and averaged 8·3 acres per farm; this average had only increased to 8·5 acres in 1950. Eighty of the farms provided complete records of their operations but the other 15 could only supply partial data. In general, the analysis is based on data for the 80 farms which provided complete records on their business operations for the years 1945 and 1950.

Changes in Potato Varieties.—In 1945 Irish Cobblers accounted for 55 per cent and Green Mountains for 33 per cent of the potato acreage on 80 of the farms in the study.

These two varieties thus made up almost 90 per cent of the total potato acreage. By 1950 their combined acreage represented only 50 per cent of the total acreage. Much of this change was due to an increase in Sebago and Katahdin plantings (Table I).

Changes in potato varieties on these farms during the six-year period 1945-1950 are reasonably representative of changes on other potato farms on the Island. Data compiled by the Seed Potato Certification Service of the Canada Department of Agriculture indicate a similar trend. These data are collected annually and provide a reliable description of the changes which have occurred in recent years.

The trends indicated in Table 2 correspond to those observed during the study (Table I) and thus stress the decline in plantings of Irish Cobbler and Green Mountain varieties and the increase in the Sebago acreage. Preliminary data for 1951 indicate a continuation of this trend. There is also some indication that since 1949 Sebago plantings have increased at the expense of Katahdin plantings.

Table 1.—Changes in Varieties of Potatoes Grown on 80 Farms in Prince Edward Island, 1945-1950

Variety	Percent of Total Potato Acreage		Change
	1945	1950	
Irish Cobbler	55	25	−30
Green Mountain	33	25	− 8
Katahdin	6	20	+13
Sebago	6	29	+23
Other	—	1	+ 1

The recent and rapid increase in the Sebago acreage creates a contentious situation. The Island farmers generally regard the Sebago as a somewhat low-quality potato for general table use, in spite of the special demand for it for frying purposes. Other farmers, however, feel that an increase in the production of that variety would tend to cause a decline in potato consumption and, thus, have an adverse effect on the long-run interests of the industry. An even stronger stand is taken by those who claim that a decline in quality has already resulted in a decline in consumption. In their opinion, the best way to improve the present situation consists in adopting special measures or programs and making a determined effort to promote the growing of good quality potatoes. On the other hand, there are farmers who argue that the quality problem is only of secondary importance. Indeed, some farmers even have a marked preference for the Sebago as a table potato.

Farmers' Preferences for Different Varieties.—Farmers were asked to state their preferences for different varieties of potatoes, with regard to table quality and production for sale. Opinions given by 95 farmers are summarized in Table 3.

Over half of the growers preferred the Green Mountain as a table potato but only eleven preferred to grow it for sale. The general comment was that it was difficult to secure satisfactory yields from this variety. Only five farmers preferred the Sebago as a table variety but over one-third of them listed it as the variety they preferred to grow for sale. Higher yields and general salability were the reasons given for preferring the Sebago.

Growers supplied information on time spent on various operations, and expenses and receipts involved in the production and marketing of the potato crop. Analysis of this information was difficult as most of the farms grew more than one variety of potatoes. A farm was classified as a producer of a given variety when that variety represented more than 50 per cent of the total acreage in potatoes on that farm.

In general, the data presented in Table 4 add weight to the statements made by the farmers regarding their preferences for commercial varieties. Farms with

Table 2.—Percentage Distribution of Acreage, by Varieties of Seed Potatoes Entered for Inspection, Potato Certification Program, Prince Edward Island, 1942-1951[a]

Year	Irish Cobbler	Green Mountain	Sebago	Katahdin	Other[b]	Total
			—per cent—			
1942	50	41	1	7	1	100
1943	46	39	8	6	1	100
1944[c]	52	29	7	12	—	100
1945	52	33	9	6	—	100
1946	42	31	20	7	—	100
1947	38	33	20	8	1	100
1948	31	36	20	12	1	100
1949	27	28	26	18	1	100
1950	28	19	38	14	1	100
1951[d]	23	16	45	11	5	100

[a] Data provided by the Division of Plant Protection, Science Service, Dept. of Agriculture, Ottawa.
[b] A dash indicates that the actual figure represents less than 0·5 per cent.
[c] Based on acres *passed* for inspection. Data not available for acres *entered* for inspection, by varieties.
[d] Preliminary figures.

Table 3.—Preferences of 95 Potato Growers for Different Varieties of Potatoes, Prince Edward Island, 1951

Variety	Growers Preferring This Variety as a Table Potato	Growers Preferring to Produce This Variety for Sale
	—number—	
Green Mountain	50	11
Irish Cobbler	19	14
McIntyre Blue	13	—
Sebago	5	36
Katahdin	2	16
No Preference	6	18
Total	**95**	**95**

Sebago as the main variety had yields equal to the average for the 80 farms, and obtained the highest price per bushel and the highest labour returns per acre. Farms with Green Mountains as the major variety had the lowest yields per acre, received the lowest price per bushel (except for the farms on which the Katahdin was the main variety), and the lowest labour returns per acre in potatoes. Farms on which Katahdins were the main variety had about the highest yields per acre. Heavier applications of fertilizer contributed, in part, to these high yields. On the average, 1,953 pounds of fertilizers per acre were applied as compared with 1,657 pounds on farms where the Sebago was the major variety.

Quality in Relation to Net Returns.—Potatoes constitute the major cash crop on the Island and are grown, on the average, on a little less than four acres per farm. More than half of the potato acreage is allotted to seed potatoes. A specialized commercial enterprise of this type is, therefore, expected to be highly sensitive to economic conditions. Usually, the commercial producer is more concerned with the selection of a variety that will bring him the highest possible returns rather than with quality. This attitude is probably responsible for the rapid increase in Sebago plantings in recent years. In 1950 over 96 per cent of the 13,789 acres of Sebagos entered in the Canadian Seed Potato Certification Program were grown on the Island.

Most of the farmers co-operating in the study did not give a high rating to the Sebago as a table potato. However, there did not appear to exist any general feeling that the increased production of this variety would seriously affect potato consumption. Some farmers even expressed doubt as to the average consumer's awareness of variations in the cooking quality of potatoes.

As previously noted, six farmers did not have a marked preference for any particular table stock variety and five others preferred a variety which is generally regarded as being of low quality.

Table 4.—Production and Returns, Different Varieties of Potatoes, 80 Farms in Prince Edward Island, 1950

Variety[a]	Farms Where This Was the Main Variety	Average Number of Acres in Potatoes	Average Yield per Acre	Average Price Received per Bushel	Average Labour Returns per Acre
	No.	No.	Bu.	¢	$
Irish Cobbler	23	6·8	250	44	18·29
Green Mountain	16	7·3	247	38	−2·41
Katahdin	16	8·5	268	38	5·43
Sebago	15	7·0	259	46	22·04
Mixed[b]	10	13·9	271	39	8·77
Total or Average	**80**	**8·2**	**259**	**41**	**10·45**

[a] Variety stated represents over 50 per cent of the potato acreage on each farm.

[b] No one variety accounts for over 50 per cent of the potato acreage.

The five farmers who preferred the Sebago as a table potato emphasized its late maturity. They claimed that much of the criticism arose from the fact that the Sebago was harvested too early and that it was a common practice to apply a killing spray before harvesting. A similar opinion is voiced in a bulletin published by the United States Department of Agriculture, in which the Sebago is described as being of "good cooking quality if tubers are allowed to mature".[1]

The Sebago, in fact, is in great demand by hotels and restaurants because its smoothness and shallow eyes reduce time and loss in peeling. According to many growers this more than outweighs any deficiency in quality. Some farmers also noted that it was often preferred to other varieties during the latter part of the storage period.

Whatever its merits or shortcomings, the Island farmers are likely to expand their Sebago acreage in relation to that of other potato varieties, as long as they find it profitable to do so. Of course, continued criticism of this variety can be expected in an area where quality production has long been stressed. But, those who stress quality may find it more advantageous to concentrate on the extension of the growing period rather than on the abandonment of the production of this variety.

The sharp increase in Sebago acreage on the Island in recent years provides an example of the rapid adaptation of a specialized commercial enterprise to changing economic conditions. When emphasis on quality is adequately reflected in net returns, producers are likely to make an early change in their production programs in order to take advantage of this opportunity.

F. A. O. PUBLICATIONS

Since the beginning of 1952 F.A.O. has issued the following publications:

1. **Report of the Council of F.A.O.—Thirteenth Session.** November 12-16, 1951. Rome, Italy.
2. **Report of the Council of F.A.O.—Fourteenth Session.** December 7, 1951. Rome, Italy.

These two reports list the various resolutions and recommendations submitted to the Sixth Session of the F.A.O. Conference.

3. **Report of the Fifth Session of the International Poplar Session and Proceedings of the Fourth International Poplar Congress.**

This report discusses the problems involved and the progress made in the breeding of poplar trees in various countries of the world.

4. **Report of the First Meeting of the Working Party on Fertilizers, Bogor, Indonesia.** April 1951 (F.A.O. Development Paper No. 11).

A paper dealing with the effect of various fertilizers and manures on rice yields and the methods followed in conducting field experiments.

5. **World Catalogue on Genetic Stocks—Wheat Supplement No. 1.** January 1951.
6. **World Catalogue on Genetic Stocks—Rice Supplement No. 1.** January 1951.
7. **Equipment for the Processing of Tea.**

A brief digest describing the various types of equipment used in tea-producing countries.

8. **Use of the Revolving Capital Plan for Co-operative Associations** (F.A.O. Development Paper No. 15).

A description of the Revolving Capital Plan as a means of financing Co-operative Associations in the U.S.A. and Canada.

9. **Report of the Second Meeting of the Working Party on Rice Breeding** (F.A.O. Development Paper No. 14).

This report includes a discussion of the problems relating to rice breeding and a series of recommendations made by the Working Party on Rice Breeding.

10. **World Report on the Production and Consumption of Fertilizers.**

A statistical report on the production and consumption of fertilizers.

The above-mentioned publications may be obtained in Canada through the Ryerson Press, 299 Queen St. West, Toronto 2, Ontario.

---

[1] *Potato Production in the Northeastern and North Central States.* Farmers' Bul. No. 1958. Washington, D.C., United States Dept. of Agriculure. 1944.

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS

G. P. BOUCHER, Editor

AUGUST 1952 **Vol. XXII, No. 4**

CONTENTS

Page

The Economic Situation 75

Co-operatives in Newfoundland, Part II
J. E. O'Meara and H. K. Ingersoll 77

Consumer's Expenditures for Food . . . . *F. M. Schrader* 82

Canadian Canned Meat Exports and Imports . . . . *M. Rachlis* 83

The Selection of Periods for Use in Calculations of Wheat Yields as a Basis for Land Classification in Saskatchewan . . *J. Zeman* 87

A Comparison of Sprinkler and Surface Irrigation Costs in Alberta, 1950 . . . . *C. A. Fraser* 89

Recent Trends in Canadian Sheep Production. . . . . *J. Mann* 92

Publications of the Economics Division 95

MARKETING SERVICE, ECONOMICS DIVISION

J. F. BOOTH, Chief

**Published by Authority of the Right Honourable James G. Gardiner,
Minister of Agriculture**

ANNUAL AND MONTHLY INDEX NUMBERS

Wholesale Prices, Farm Prices and Living Cost Indexes

Year	Wholesale Prices 1935-39=100				Farm Prices of Agricultural Products 1935–39=100 (e)	Commodities and Services used by Farmers 1935-39=100		Cost of Living 1935-39=100	
	(a) General Wholesale Index	(b) Farm Products	(c) Field Products	(d) Animal Products		(f) Equipment & Materials	(g) Eleven Factor Index	(h) Farm Living Costs	(i) Urban Living Costs
1913	83·4	....	....	....	....	85·4	....	80·1	79·1
1914	85·4	....	....	....	....	90·2	85·3	82·3	79·7
1915	91·8	....	....	....	....	96·9	91·6	86·5	80·7
1916	109·8	....	....	....	....	101·7	100·5	93·7	87·0
1917	148·9	....	....	....	....	140·7	140·5	111·5	102·4
1918	166·0	....	....	....	....	164·1	160·2	131·1	115·6
1919	174·7	....	....	....	....	169·1	167·9	143·0	126·5
1920	203·2	....	....	....	....	190·1	186·5	171·3	145·4
1921	143·4	....	....	....	....	147·4	152·5	139·9	129·9
1922	126·8	....	....	....	....	124·6	134·1	127·9	120·4
1923	127·7	....	....	....	....	118·3	130·6	128·3	120·7
1924	129·5	....	....	....	....	122·3	131·9	125·5	118·8
1925	133·8	....	....	....	....	123·2	131·8	123·9	119·8
1926	130·3	144·4	158·5	130·2	....	119·9	130·6	121·1	121·8
1927	127·3	138·6	149·4	127·8	....	119·9	131·2	119·8	119·9
1928	125·6	136·3	134·3	138·2	....	118·3	129·3	118·5	120·5
1929	124·6	140·8	137·2	144·4	....	117·6	127·9	117·3	121·7
1930	112·9	119·5	105·8	133·3	....	105·6	117·0	113·7	120·8
1931	94·0	78·9	65·0	92·7	....	92·2	100·9	103·9	109·1
1932	86·9	65·5	60·4	70·5	....	89·3	93·3	97·8	99·0
1933	87·4	69·3	69·3	69·2	....	88·8	89·8	95·8	94·4
1934	93·4	83·5	80·5	86·5	....	96·8	95·5	97·9	95·6
1935	94·4	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	96·7	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	107·8	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·0	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	99·2	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	108·0	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	116·4	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	123·0	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	127·9	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	130·6	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	132·1	166·4	162·5	170·2	185·7	125·9	152·1	123·2	119·5
1946	138·9	179·5	177·9	181·2	204·1	128·0	157·0	127·1	123·6
1947	163·3	192·2	184·1	200·2	215·8	139·5	170·4	138·3	135·5
1948	193·4	232·1	200·6	263·7	255·8	173·1	197·4	162·8	155·0
1949	198·3	228·7	191·9	265·4	255·4	180·3	204·1	173·2	160·8
1950	211·2	236·7	191·9	281·4	260·8	189·9	210·4	177·6	166·5
1951	240·2	265·1	193·4	336·9	292·0	206·0	229·9	198·6	184·5
1951									
Aug.	241·4	263·3	178·3	348·3	294·3	207·5	237·7	228·5	188·9
Sept.	240·0	260·5	181·7	339·2	293·2	....	....	....	189·8
Oct.	239·6	259·3	188·1	330·4	288·7	....	....	....	190·4
Nov.	239·1	264·9	201·4	328·5	287·6	....	....	....	191·2
Dec.	237·7	266·8	204·4	328·9	287·2	....	....	....	191·1
1952									
Jan.	236·8	263·1	208·0	318·2	284·0	218·1	236·6	228·3	191·5
Feb.	232.6	251·2	205·1	297·3	272.4	....	....	....	190.8
Mar.	230·8	248·3	213·3	283·3	267·2	....	....	....	189·1
April	226·9	245·4	217·1	273·7	264·8	216·9	243·2	209·6	188·7
May	224·8	244·3	223·2	265·4	258·3	....	....	....	186·7
June	226·5	249·5	227·6	271·4	....	....	....	....	187·3
July	....	....	....	....	....	....	....	....	....

(a) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo.) Ottawa, Monthly.
(b) Ibid (a). Wholesale prices of products of Canadian farms.
(c) Ibid (a). Wholesale prices of grains, hay, tobacco and potatoes.
(d) Ibid (a). Wholesale prices of animals and animal products.
(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo.) Ottawa, Monthly.
(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo.) Ottawa, Jan., Apr. and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.
(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.
(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.
(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

THE ECONOMIC SITUATION

Private and Public Investment in Canada.—According to a mid-year survey conducted by the Department of Trade and Commerce total capital expenditures on new construction and machinery and equipment in 1952 are estimated at $5,181 million, 13 per cent above the total for 1951. Allowing for a slight increase in the prices of capital goods, the physical volume of investment may be about eight per cent higher than in 1951.

Estimated outlays for new construction are placed at $2,941 million, an increase of nine per cent over 1951. Machinery and equipment expenditures are estimated at $2,240 million, or 18 per cent higher than in 1951.

The survey indicates a further expansion in Canada's basic industrial capacity particularly in such fields as non-ferrous metals and chemical products, central electric stations and agriculture.

Cost-of-Living. — The cost-of-living index advanced 0·6 point to 187·3 between May 1 and June 2 and thus marked its first upward movement since January. Increases in the food and rent indexes overbalanced decreases in the clothing, fuel and light, and home furnishings and services indexes.

Food prices were generally lower but an increase of nearly 13 cents per ten pounds of potatoes and higher prices for most other fresh vegetables and fresh pork were sufficient to raise the food index from 235·3 to 237·0. Among other foods, decreases were recorded for beef, butter, bacon, coffee, and oranges.

The home furnishings and services index declined from 198·2 to 197·2, the clothing index from 210·1 to 209·3 and the fuel and light index from 150·6 to 149·8. The miscellaneous items index remained unchanged at 147·4 and the rent index advanced from 146·3 to 147·9.

Industrial Employment.—The Index number of employment (1939=100) stood at 177·4 at the beginning of May as compared with 177·7 at April 1, and 175·6 at May 1, 1951. The payrolls index stood at 410·5 as compared with 411·5 a month earlier and 367·9 a year before. Weekly wages and salaries averaged $54.30 as compared with $54.32 at April 1 and $49.17 at May 1 last year.

By comparison with April 1 activity was moderately heightened in Ontario and the Western provinces but lessened in Quebec and the Maritime provinces. In Quebec decreased activity was due largely to seasonal contractions in logging camps, and to industrial disputes. In the Maritime provinces the falling-off in employment was mainly seasonal in character.

At May 1 the index of employment in manufacturing was 188·4 as compared with 187·9 at April 1 and 189·9 at May 1, 1951. The payrolls index was 468·3 at May 1, 1952, 467·2 at the beginning of April and 423·7 at May 1, 1951. Per capita weekly wages and salaries at the same dates totalled $56.54, $56.55 and $50.84 respectively.

Industrial Production.—Canada's industrial production index (1935-39=100) a measure of the volume of output of mines, factories and electric power plants, registered its fourth consecutive monthly increase in April 1952. The index averaged 209·6 for the first four months of this year, about two per cent below the level for the corresponding period in 1951, but 11 per cent above the level for the first four months of 1952.

Department Store Sales.—Department store sales rose 9·2 per cent in May as compared with May 1951, the figures for the two months being $76,584,000 and $83,651,000 respectively. Sales were higher in all provinces; British Columbia led with an advance of 22·5 per cent and was followed by Alberta with 20·6 per cent, the Maritime Provinces 15·0 per cent, Manitoba 10·4 per cent, Ontario 5·7 per cent, Saskatchewan 4·9 per cent and Quebec 1·1 per cent.

External Trade.—Canada's total domestic exports increased from $323,400,000 in May 1951 to $380,800,000 in May 1952 whereas her estimated imports decreased from $405,100,000 to $387,900,000. Domestic exports to the United States declined from $208,700,000 to $198,900,000 but those to the United Kingdom rose from $47,200,000 to $85,600,000. Estimated imports from the United States rose from $273,200,000 to $284,400,000 and imports from the United Kingdom declined from $43,600,000 to $33,200,000.

Consumer Credit.—Value of retail sales in the first quarter of 1952 was 2·9 per cent higher than in the first quarter of 1951. Cash sales increased 1·9 per cent, instalment sales 5·2 per cent, and charge sales 5·4 per cent. Retail sales totalled $2,314,200,000 as compared with $2,249,-

600,000 in the first quarter of 1951. Cash sales increased from $1,589,000,000 to $1,618,400,000, instalment sales from $183,800,000 to $193,300,000 and charge sales from $476,800,000 to $502,500,000.

Prices.—The general index of wholesale prices (1935-39=100) declined 0·9 per cent in May to 224·8 from 226·9 in April. The May 1951 index stood at 241·9.

The composite price index of commodities and services used by farmers, including farm family living costs (1935-39=100) advanced from 219·2 in April 1951 and 228·3 in January to 229·8 in April 1952. Exclusive of living costs, the index rose from 233·9 in April 1951 to 236·6 in January and 243·2 in April 1952. Seasonal increases in farm wages, especially in the western provinces, were mainly responsible for the advances in the composite index. The all-Canada wage index increased from 410·3 in January to 454·2 in April, the Western series rising from 382·4 to 484·6 and the Eastern series from 430·0 to only 432·8. The indexes for the corresponding series in April 1951 were 444·8 and 413·7 respectively.

Farm prices of agricultural products continued their general downward movement during May. Preliminary estimates place the overall index (1935-39=100) at 258·3 or 6·5 points below the revised figure of 264·8 for April and 34·7 points below the figure of 293·0 for May 1951. This was the fourth successive decline since January, when the index had moved upward after an uninterrupted series of monthly declines from a high point of 307·2 in July 1951. The May decline was due to lower prices for grains, livestock, dairy products, poultry and eggs, which more than offset a substantial increase in potato prices.

Farm Wages.—The average rates of wages paid to male hired help on Canadian farms as at May 15 during the last three years were as follows: rates paid with board provided by the employer, $101 in 1952, $92 in 1951 and $85 in 1950; and rates paid without board $135 in 1952, $127 in 1951 and $114 in 1950. In 1952 the rates without board ranged from $97 in Prince Edward Island to $152 in British Columbia and rates with board from $71 in Prince Edward Island to $112 in Alberta and $113 in Saskatchewan.

Price Support for Beef.—The Minister of Agriculture announced in the House of Commons on May 30 that the floor price for cattle would be continued until September 1. This support price is established at 25 cents per pound for good steers, basis delivery Toronto and Montreal.

Canadian Farm Loan Act.—The Canadian Farm Loan Act has been amended to provide, among other things, for first mortgage loans up to 60 per cent of the appraised value of the security and up to a maximum of $10,000. Short term loans secured by second mortgage may be made for the same purpose as first mortgage loans and up to one-third of the amount of a first mortgage loan. The amendments also provide for aggregate maximum loans secured by first and second mortgages up to $12,000 and up to 70 per cent of valuation where chattel security is taken or 65 per cent where it is not taken. An advisory board known as the Canadian Farm Loan Advisory Board will be appointed.

Farm Machinery and Equipment.—Total value of machinery and equipment on Canadian farms amounted to $1,933,297,337 in 1951 as compared with $596,046,300 in 1941, and only $108,665,000 in 1901, according to a bulletin dealing with 1951 Census returns published by the Dominion Bureau of Statistics.

From 1941 to 1951 the number of tractors in use by farmers increased from 159,752 to 399,683. Ownership of one or more tractors was reported for 342,655 farms. The total number of trucks on farms increased from 77,480 to 196,115 and grain combines increased from 19,013 to 90,500. The number of electric motors in use on farms rose from 58,192 in 1941 to 196,681 in 1951.

Farm Improvement Loans.—Borrowings by farmers under the Farm Improvement Loans Act climbed to a peak of $85,326,227 during 1951, about $22,000,000 more than for the previous year. This brings the total to $255,380,930 for the seven years the Act has been in effect.

The number of loans made increased to $75,000, an increase of about 16,000 from 1950. The total for the seven-year period is 248,625.

Loans are extended for a wide variety of purposes, from farm housing to purchases of livestock. Loans for the purchase of agricultural implements, however, accounted for as much as $78,302,385 in 1951, or about 92 per cent of the total.

CO-OPERATIVES IN NEWFOUNDLAND,[1] PART II

J. E. O'Meara and H. K. Ingersoll

The information contained in this Part of the article is drawn from completed questionnaires returned by ten Newfoundland co-operative societies. These questionnaires were completed by field workers of the Department of Fisheries and Co-operatives in the fall of 1950. From the point of view of membership and business transacted, the ten societies include some of the largest and some of the smallest in the province. Five of these societies were engaged in both marketing and distributing, four in distributing only and one solely in marketing.

The benefits of the work done by Sir Wilfred Grenfell in promoting the co-operative movement in Newfoundland are still apparent. One of the oldest societies from which a questionnaire was received was organized by him in 1913. The remaining societies were organized during the years 1943 to 1949. Three of the co-operatives have undergone re-organizations since first starting business and all but one have been registered under the Act Relating to Co-operative Societies.

Membership.—The total membership reported for the ten co-operatives was 1,966, including 424 inactive members who form 21·6 per cent of the total. In addition there were 393 non-member patrons doing business with the co-operatives. The largest membership reported by a single co-operative was 700; that society was located in one of the large centres. The smallest co-operative reporting was located in a more outlying district; and it had 34 members. Five of the societies had fewer than 100 members and three had between 100 and 200.

Those who wished to joint a society were required to submit an application for approval by the Board of Directors. In four of the ten co-operatives the applicant was also required to sign an agreement to market all his produce or purchase all his supplies through the co-operative, depending on whether the society was engaged in marketing or distributing.

Membership was in general restricted to residents of the area in which the society operated. No restrictions regarding occupation were reported except in the case of one marketing society which limited its membership to fishermen.

Membership required the payment of fees ranging between 10 and 50 cents, and the purchase of one or more shares of capital stock which in at least one case could be paid for in work for the co-operative.

Three of the co-operatives imposed no limit on the number of shares which could be held by any one member. Of the remaining societies, one limited the amount to $1,000.00 of the total par value of shares issued, and the limits set by the others varied between one-tenth and one-fifth of the total paid-up or authorized shares.

Personnel.—The completed questionnaire showed that the average number of employees was about six while the largest staff reported by any of the co-operatives numbered 15. On the other hand, each of two co-operatives required only one employee. One of these societies, a distributing group located at one of the outports, was operated by a woman. The other society was one of the newer co-operatives engaged in marketing fish and operated only during the fishing season.

Casual and seasonal employees formed about 21 per cent of the total number employed. Approximately 25 per cent of all employees were women.

There were wide variations in the salaries and wages paid to employees among the societies as illustrated in the following Table. The variations are perhaps partly explained by the fact that the societies represented included

---

[1] Part I of this article appeared in the June issue of *The Economic Annalist*.

Monthly Salaries and Wages Paid to Employees

—	Low	High	Average
		— dollars —	
Managers	55.00	300.00	170.00
Accountants	110.00	120.00	115.00
Clerks—male	85.00	170.00	123.00
—female	15.00	75.00	45.00
Drivers	110.00	140.00	125.00
Others	135.00	200.00	180.00
Casual, per hour	.35	.50	.43

both large and small, seasonal and other societies; and the duties involved and degree of experience and efficiency required from managers and staff are seldom comparable among the societies.

Managers.—The manager of a co-operative has responsibilities which do not occur in other types of business. Though he is appointed by the Directors and must conform to the policies laid down by them, he is also responsible to his customers who, as members of the society, are the owners of the business and so have a voice in the management.

The duties and responsibilities of managers vary considerably in different co-operatives depending on the purposes for which the societies were formed, the amount of business done, the type of goods handled, the number of employees and other factors. The manager's duties and responsibilities are generally set out in the co-operative by-laws and cover all operations of the business. As the success of a co-operative depends on him to such a great extent the position must be filled by a person of unusual integrity and ability.

Information furnished by the questionnaires indicated that the average age of managers was about 35 years and ranged between the early twenties and 45 years. Most of the managers had received formal education up to Grade IX or X. Two managers had graduated from High School. One had his Senior Matriculation and had taken a business course. Two managers had taken courses on co-operation at a University or some other educational institution, and others had gained their familiarity with the subject through study clubs, co-operative literature or in their work with co-operative organizations.

Although practically all the managers had previous business experience, which in some cases was quite extensive, only three reported previous employment with a co-operative.

In co-operatives as in other types of business there are occasional changes in staff, and managers apparently are no exception. Two of the managers had been employed in a similar capacity in other co-operatives, one for over twenty years. Less than half of the managers had occupied their position since organization of the co-operative. The greatest length of service of any of the managers in his present position was ten years while the average period of service was three and one-half years.

Managers were paid by salary in all cases except two. Of these two societies, one paid a commission on the volume of goods marketed while the other based its commission on the sales value of the goods distributed. The average of the salaries paid to managers was about $2,100.00 per year and the highest reported was $3,600.00. There was only one case reported in which a bonus was paid.

The manager probably has more intimate knowledge of the details of the business than anyone else connected with it. In order to take advantage of this knowledge three of the co-operatives reporting had given him a seat on the Board of Directors. In one society he filled the position of secretary-treasurer along with that of manager.

Recent changes in the laws governing the activities of Newfoundland co-operatives have made it compulsory to bond those officers who have receipt or charge of the money of their society. At the time the questionnaires were completed bonding was not required by law except for those societies which had provided for it in their constitutions. In the replies to the questionnaires none of the ten co-operatives reported that any of their officers or employees had been bonded.

The questionnaire asked for information regarding the training of employees in co-operative principles prior to their employment by the society. According to the replies received no employee below the rank of manager had any previous training in co-operative work. However, opportunities were given by three of the societies for their staffs to become familiar with co-operative principles and methods through study clubs, co-operative literature and staff meetings, or from visiting fieldmen.

Audit.—It is generally conceded to be a good policy for co-operatives as well as for other types of business organizations to have a periodical examination made of their accounts and operations by a trained auditor. His report and analysis of the operations of the business for the period should be of great value to the directors and members in general in determining the state of the finances and degree of efficiency of operations.

All of the groups reported that an annual audit was made as required by Section 17 of the Act Relating to Co-operative Societies. Six of the societies employed professional auditors and one society used the audit services provided by Maritime Co-operative Services Ltd. Two groups were audited by field-workers from the Department of Fisheries and Co-operatives and the audit of the remaining society was done by a member of the group itself. One group reported that a quarterly audit was made by officers of the society in addition to the annual audit by professional auditors.

Organization, Management and Policies

Directors.—The qualifications which were considered the most necessary for election to the Board of Directors were that the candidates be members in good standing, interested in the society and willing to work for its best interests. Candidates were required to have some knowledge of co-operative principles and to be willing to abide by the by-laws of the society.

Directors were generally elected for a term of three years though a one-year term was preferred in a few cases. Directors' meetings were held at least once a month in all societies and in some cases twice a month. In one fishermen's society the board met only during the fishing season when meetings were held every two weeks. The number of directors varied from three to twelve but the great majority of the societies preferred from nine to twelve directors. Only one case was reported where the directors received any remuneration for their services and in this case a nominal amount only was paid for each meeting attended.

Officers.—Appointed officers were not paid any remuneration in connection with their office except in one case where small sums were paid to the secretary and the treasurer. Officers and directors, and in some societies ordinary members, were required at times to serve on special committees formed to deal with some particular problem or aspect of the business. Many co-operatives reported standing committees to deal with such matters as Production, Finance and Education. Other topics dealt with by committees included Building and Grievances.

In most of the co-operatives the directors were responsible for the determination of credit policies. Practically none of these co-operatives favoured the granting of credit in dealings with members. In their own trading with other business concerns the majority of them had adopted a cash policy but a few others operated on a thirty to sixty days' credit basis.

Resale prices and mark-up were generally determined by the manager but a few of the co-operatives preferred to have the rates set by the Board of Directors, or by the Board and Manager together. There was only one case reported where the responsibility for determining the mark-up was given to a member of the staff and in that instance the manager's approval was required.

According to the replies received to a question concerning authority to engage staff it appears that the large majority of the co-operatives preferred to have the staff engaged by the directors. The manager was, of course, responsible for the overall supervision but there were only two cases reported where he had authority to engage the staff.

Membership Relations.—If a co-operative can be considered apart from its members it might be said that good relations between the co-operative and its members is one of the fundamentals for its success. Efficient and conscientious work on the part of the directors, officers and staff are of little value unless the members contribute their support and maintain an active interest in the development and success of the enterprise. The attendance at the annual meeting when the reports of the year's operations are given and elections are held generally furnishes a good indication of membership interest and relations.

All co-operatives which completed the questionnaire, except one, reported that meetings were held more frequently than once a year. The majority of the societies held quarterly meetings. Two societies met every month and one held weekly meetings.

An average attendance of 19 per cent at the annual meetings was reported by the society which met only once a year. Co-operatives which held quarterly meetings reported an average attendance of 14 per cent of the members. Monthly meetings drew the best attendance with an average of 74 per cent; 38 per cent of the members attended when meetings were held each week.

Special features such as films or speakers from the outside were sought to add to the interest in meetings but apparently such attractions were not readily available, particularly to the more isolated localities. None of the societies reported that any social gatherings were held in conjunction with business meetings.

Publicity.—Little attention appears to have been given to publicity except by the larger groups. A co-operative radio programme broadcast over the local stations was perhaps the most effective method used. One society issued a weekly news sheet but the most popular medium used was the circular letter.

The most widely circulated co-operative publication among Newfoundland societies was probably "The Maritime Co-operator" to which some of the larger groups subscribed.

Educational Fund.—The questionnaire asked for information showing what use, if any, was made of the Educational Fund. From the replies received the main use of the Fund appears to have been to defray expenses incurred in sending delegates to co-operative council meetings. Other stated uses included payment of scholarships to local schools, costs of broadcasting and the publication of newsletters. Several of the societies reported that the fund had not been used.

General.—It is inevitable in all co-operatives that some members will become inactive. It might be due to a change in occupation or a move to a locality outside the circle of operations of the society. In either case the member is unable to take advantage of the opportunities offered by his society and will either resign or become inactive. Other members may become inactive through loss of interest and understanding of the advantages to be gained through active membership.

The societies reported that they knew who and where their inactive members were but only half of the groups stated that any programme had been drawn up to increase interest among those members. The formation of co-operative study clubs was mentioned as one method used to recapture the interest and support of inactive members. No particulars were given of other programmes followed.

There appeared to be a more or less concerted attempt through personal contacts to encourage non-members to join. One inducement mentioned was the opportunity to acquire share capital by working for the society. Non-members were invited to "kitchen" conferences where co-operative principles were discussed and the benefits of membership explained.

Transportation and Communication.—A large number of Newfoundland co-operatives situated in the more thinly populated areas and outports of the province conduct their business without the convenience and advantages of modern transportation and communication facilities.

Only two of the co-operatives which returned the completed questionnaires reported that they had telephone service. The remaining societies depended on the telegraph or mail delivery for communication. A telegraph office could be reached by all the groups and was within easy reach of most of them but there were cases where the line was not so accessible—in one case the nearest telegraph office was seven miles away.

Post Office facilities were reported by all the co-operatives to be conveniently close to their places of business and mail delivery was, except in the winter months, as satisfactory as could be expected considering the distances involved and the means of transportation available. During the freeze-up when navigation is closed mail service in many districts was uncertain. Letters sometimes took as long as two months to reach their destination, as was reported by one of the societies in the outlying districts. Many outports were inaccessible in the winter, except by airplane when weather and landing conditions were satisfactory.

Two co-operatives had their own wharves while the remainder were not too far distant from either public wharves or the railway.

Supplies were bought from many sources both on the island and on the mainland. One society placed its orders with a large wholesale co-operative in the Maritimes with which it was affiliated. Another group took advantage of the more liberal credit made available by outside firms. Most of the co-operatives gave at least some of their business to the local wholesalers but it was frequently necessary to go further afield to obtain the goods required.

Inter Co-op Relations.—The movement to promote the formation of Credit Societies has apparently been successful in a great many cases as half of the co-operatives which completed the questionnaire reported affiliation with societies formed or being formed to extend credit to their members.

There was some trading with unorganized Buying Clubs, but no relationship to other co-operatives was reported except in the case of two societies which reported that they were members of wholesale co-operatives in the Maritime Provinces.

INTERNATIONAL CONFERENCE OF AGRICULTURAL ECONOMISTS

The Eighth International Conference of Agricultural Economists was held at the Kellogg Center, Michigan State College, East Lansing, Michigan, U.S.A., August 15-22, 1952. The theme of the conference was "Economic Aspects of Food and Population". Related problems such as agricultural efficiency; planning of agricultural programs in under-developed countries; economic objectives of FAO, Point Four and the Colombo Plan; land tenure; and international trade in agricultural products, were also discussed.

CONSUMER'S EXPENDITURES FOR FOOD

F. M. SCHRADER

Evidence that Canadians are eating more food per capita and higher quality foods than during the prewar period 1935-39 is found in comparing total expenditures for food with the cost of a fixed quality and quantity of food. Estimates of actual expenditures for food are made annually by the Dominion Bureau of Statistics. In 1935, $73.00 per person was spent for food; this is 24 per cent of the per capita disposable income of that year. During the following seventeen years the annual per capita expenditure for food increased gradually until it reached $245 in 1951. This represented 23 per cent of the per capita disposable income. Durig the entire period a fairly constant proportion of disposable income was spent on food.

Actual expenditure for food per person increased by 236 per cent from 1935 to 1951; the food price index increased by 150 per cent. This in itself would indicate that somewhat larger quantities per capita and perhaps higher quality foods were being purchased during the later part of the period.

The food price index, which constitutes one part of the total cost-of-living index, indicates the change in price for a fixed quantity and quality of food purchased by middle income urban families in 1937 and 1938 according to a survey. The average index of the five-year period 1935-39 is made equal to 100. The food index increased gradually from 1935 to 1941, then remained fairly constant until 1946. It was in 1946 that prices of many goods and services began the sharp postwar rise. Food prices followed suit and by the end of 1951 the index had reached 241. This means that in 1951 prices of that fixed quantity and quality of food entering the food index were almost two and one-half times as high as during the prewar period 1935-39.

Actual Expenditure for Food
and
the Cost of a Fixed Quantity and Quality of Food
1935 to 1951

Year	Disposable Income		Actual Expenditure on Food			Cost of Fixed Quantity of Food		
	Total	Per Capita	Total	Per Capita	Disposable Income Per Capita	Total	Per Capita	Disposable Income Per Capita
	$ million	$	$ million	$	%	$ million	$	%
1935.......	3,293	304	971	73	24·0	834	77	25·3
36......	3,482	318	850	78	24·4	863	79	24·8
37......	3,930	356	934	85	23·8	910	82	23·2
38......	3,975	357	915	82	23·0	916	82	23·0
39......	4,208	374	919	82	21·8	887	79	21·1
1940......	4,808	423	1,055	93	21·9	931	82	19·4
41......	5,600	487	1,286	112	23·0	1,024	89	18·3
42.......	6,980	600	1,518	130	21·7	1,121	96	16·1
43.......	7,478	634	1,655	140	22·1	1,153	98	15·4
44......	8,164	683	1,769	148	21·7	1,158	97	14·2
1945......	8,430	697	1,885	156	22·4	1,173	97	13·9
46......	8,965	729	2,085	169	23·3	1,238	101	13·8
47.......	9,599	764	2,407	191	25·1	1,407	112	14·7
48.......	11,121	865	2,751	214	24·7	1,724	134	15·5
49......	11,968	908	2,863	213	24·1	1,790	132	15·0
1950.......	12,682	940	3,036	219	23·9	1,859	134	14·7
51......	14,843	1,060	3,436	245	23·1	2,127	152	14·3

The current value of the quality and quantity of foods purchased during the prewar period can be computed by multiplying the 1935-39 average expenditure for food by the current food index. The average annual expenditure for food was 882 million dollars in 1935-39. The food index was 100. In 1945 the food index was 133. That is, the price per unit of these foods had increased by 33 per cent so that the total cost of the qualities and quantities of food purchased in 1935-39 would have icnreased from 882 million dollars to 1,173 million dollars or from 80 dollars per person to 97 dollars per person. By 1951 the value of this fixed quantity and quality of food was 152 dollars per person, almost twice as large as the average for 1935-39. Actual expenditures for food increased from an average of 80 dollars per person during 1935-39 to 345 dollars per person in 1951. The difference between the actual cost of food in 1951 (245 dollars per person) and the cost of the 1935-39 quality and quantity (152 dollars per person) represents the amount paid for the larger quantity per capita or the higher quality, or a combination of the two.

The value of the fixed quantity and quality of food, expressed as a percentage of consumer disposable income, declined from 25 per cent in 1935 to just over 15 per cent in 1951. If consumers had been willing to purchase the same quantity per capita and quality of food as they had done during the prewar period, their food bill in 1951 would have been 14 per cent of their disposable income instead of 23 per cent.

CANADIAN CANNED MEAT EXPORTS AND IMPORTS

M. Rachlis

Before the last World War Canada imported from 10 to 15 million pounds of canned beef annually. Practically all of the imports came from South American countries, Argentina being the largest single supplier (Table 1). During the 1936-40 period Canada produced from five to nine million pounds of canned meats annually and exported all but three or four million pounds from this production (Table 2).

During the war imports of canned beef declined from seven million pounds in 1941 to one thousand pounds in 1946. At the same time domestic production of canned meats rose sharply reaching a peak of almost 200 million pounds in 1945. A large part of the production was exported, the heaviest export year being 1946, when 138 million pounds of canned meats were shipped abroad.

Since the end of the war imports of canned beef have regained their pre-war importance while annual domestic production, though well below the peak wartime level, has averaged about 53·6 million pounds from 1948 to 1951, compared with 5·6 million pounds during the 1935-39 period. The annual domestic disappearance of canned meats has also risen very appreciably since the war, averaging 52·4 million pounds from 1947 to 1951, compared with 15·9 million pounds during the 1935-39 period.

Table 1.—Imports of Canned Meat into Canada, Calendar Years 1936-51

Year	Imports of Canned Beef			Imports of Canned Meats and Poultry N.O.P.	Total Imports of Canned Meat
	South America[a]	Total	South America as per cent of total		
	'000 pounds		per cent	'000 pounds	
1936	11,540	12,057	95·7	306	12,363
1937	11,595	11,695	99·1	151	11,846
1938	10,179	10,302	98·8	265	10,567
1939	14,315	14,843	96·4	277	15,120
1940	10,442	10,453	99·9	158	10,611
1941	7,131	7,228	98·6	40	7,268
1942	4,534	4,546	99·7	9	4,555
1943	5,620	5,640	99·6	....	5,640
1944	5,649	5,649	100·0	36	5,685
1945	652	653	99·8	3	656
1946	....	....	....	1	1
1947	340	340	100·0	31	371
1948	563	563	100·0	1	564
1949	8,991	9,290	96·8	375	9,665
1950	10,086	10,281	98·1	687	10,968
1951	11,893	18,928	62·8	5,050	23,978

[a] Includes Argentina, Uruguay, Brazil and Paraguay.
Source: *Trade of Canada, Imports.* Ottawa, Dominion Bureau of Statistics. Annually.

Table 2.—Production and Exports of Canned Meats for Human Consumption, Calendar Years 1936-51

Year	Production	Exports	Apparent Domestic Disappearance
	—'000 pounds—		
1936	5,036	1,165	16,234
1937	6,094	1,734	16,206
1938	5,096	1,390	14,274
1939	7,887	4,642	18,402
1940	9,123	6,378	12,494
1941	23,074	1,695	26,662
1942	34,547	9,761	25,328
1943	47,794	18,820	25,935
1944	77,460	39,707	23,236
1945	199,017	98,704	40,969
1946	191,016	137,641	53,376
1947	108,830	83,615	52,586
1948	62,774	32,390	32,963
1949	46,420	10,009	51,363
1950	54,221	8,430	56,666
1951	54,545	9,258	68,385

Source: *Supply and Disposition of Meats and Lard.* Processed Pub. Ottawa, Dominion Bureau of Statistics. Annually.

According to data compiled by the inspectors of the Health of Animals Division, practically all the canned meat imports consist of beef products such as corned beef or beef loaf, and "stews and hashes" which include such canned foods as braised steak, steak and onions, beef and gravy, and similar items. In 1951 imports of corned beef originated in South American countries, stews and hashes in the United Kingdom and beef loaf in Australia (Table 3). The Australian exports appear to consist largely of a pack of minced beef combined with a relatively high proportion of cereals, in contrast to corned beef which is a fairly solid pack of chunks of beef.

Table 3.—Imports[a] of Canned Meat Showing Product Imported and Country of Origin, April to December 1951 and January to March 1952

Country in which Processed	Corned Beef	Stews and Hashes	Beef Loaf	Poultry	Pastes and Spreads	Other	Total
			— '000 pounds —				
April to December 1951							
United Kingdom[b]		5,274			1		5,275
Australia	193	385	11,123				11,701
Argentina	6,732		508			202	7,442
Uruguay	1,350						1,350
Brazil	371						371
United States				1,998		316	2,314
Others						130	130
Total	**8,646**	**5,659**	**11,631**	**1,998**	**1**	**648**	**28,583**
January to March 1952							
United Kingdom		785					785
Australia					83	739	822
Argentina						809	809
Uruguay	130						130
Brazil	46						46
United States				178		391	569
Others	130					19	149
Total	**306**	**785**		**178**	**83**	**1,958**	**3,310**

---

[a] Tabulated by Commodities Unit, Economics Division, from Health of Animals Inspection Certificates.

[b] Shown as originating mainly in South America and Australia. *Trade of Canada, Imports.* Ottawa, Dominion Bureau of Statistics. Quarterly.

Table 4.—Exports of all Canned Meats Including Canned Hams, Showing Principal Countries of Destination, Calendar Years 1949 to 1951 and First Two Months of 1952

Destination	Exports			
	1949	1950	1951	First two months of 1952
	—'000 pounds—			
United States	934	4,979	7,715	3,429
Venezuela	1,973	1,386	525	177
Belgian Congo[a]	1,215	553	427	307
United Kingdom	42	2	2	....
Israel	....	1,072	351	299
British West Indies	660	32	125	13
Other	6,497	855	713	198
Total	**11,321**	**8,879**	**9,858**	**4,423**

[a] Largely canned horsemeat.
Source: *Trade of Canada, Exports.* Ottawa, Dominion Bureau of Statistics. Annually; Jan. and Feb. 1952.

It should be noted that Trade of Canada figures do not agree with Health of Animals figures with regard to "stews and hashes" originating in the United Kingdom. The reason for this is that the meat is imported into Britain for re-export and when referring to the processed and canned products the Health of Animals data show these "stews and hashes" as coming from the United Kingdom, whereas Trade of Canada figures show them as orginating in South America or Australia.

Canadian canned beef consisted largely of a solid pack in the years 1949 to 1951 for export principally to the United States, Venezuela and Israel (Table 4).

Canned hams have become an important export commodity in the last few years. The principal importer is the United States which imported 88 and 93 per cent of the total in 1950 and 1951 respectively. In those two years canned hams were by far the most important kind of canned meat exported (Table 5).

A comparison of declared values of imported and exported canned products indicates the attractiveness of the Canadian market to foreign countries in 1951. The value of imported canned beef in 1951 averaged 30·3 cents per pound (Table 6). The Australian canned minced beef product averaged 28·4 cents a pound compared with the South American corned beef at 31·3 cents. On the other hand the per unit value of exports averaged 48·3 cents per pound, or 18·0 cents more than for the imported product (Table 7).

Canada normally imports about 10 million pounds of canned beef annually. These imports consist largely of corned beef and stews and hashes, with South American countries, Argentina in particular, being practically the sole suppliers.

Table 5.—Canned Meat Imports and Exports, by Product, Fiscal Years[a] 1950-51 and 1951-52

Type of Product	Amount Imported[b]		Amount Exported[c]	
	1950–51	1951–52	1950–51	1951–52
	—'000 pounds—			
Stews and Hashes	d	6,444	385	307
Solid Pack	d	11,631	2,851	1,255
Corned beef	d	8,822	....	....
Other	d	648	14	....
Pastes and Spreads	d	84	34	9
Chicken and Poultry	d	2,176	5	28
Hams	d	....	6,045	9,325
Total	d	**29,805**	**9,334**	**10,924**

[a] April 1st to March 31st.
[b] Tabulated by Commodities Unit, Economics Division from Health of Animals Inspection Certificates.
[c] Summary prepared by Health of Animals Division.
Not available

Table 6.—Value of Canned Beef Imported Into Canada, 1951

Country of Origin	Principal Product[a]	Total Value of Imports	Value per Pound
		dollars	cents
Australia	minced beef, corned beef, stews and hashes	1,959,228	28·4
Argentina		2,694,343	32·3
Brazil		240,973	25·9
Uruguay		785,893	30·1
South America		3,721,209	31·3
Total Imports		**5,736,742**	**30·3**

[a] As indicated by Health of Animals Inspection certificates.
Source: *Trade of Canada, Imports.* Ottawa, Dominion Bureau of Statistics. 1951 p. 40.

In 1951 high domestic prices encouraged unusually heavy imports of canned meat and Australian canned beef entered Canada in large quantities. This was the first time that Australian canned beef was imported into Canada in any sizeable amount. The Australian product consists mainly of a minced beef pack. The large quantity of stews and hashes entering Canada in 1951 was manufactured mainly in the United Kingdom from meat originating in South America.

Canada produces about 54 million pounds of canned meat annually most of which has recently been consumed domestically. Between 1949 and 1951 there was a sharp increase in the per capita consumption of canned meat, Canadians consuming 4·9 pounds per person in 1951 compared with 3·8 pounds in 1949 and an average of 1·4 pounds per person in the period 1935-39. This change partly compensated for the reduced consumption of beef in that period.

Table 7.—Value of Canned Meats N.O.P.[a] Exported by Canada, 1951

Destination of Exports	Principal Product	Total Value of Exports	Value per Pound
		dollars	cents
British West Indies	Mainly a solid pack of beef	57,122	67·4
Netherlands Ant.		44,279	62·9
Israel		144,398	41·1
U.S.A.		554,000	48·9
Others		62,357	48·6
Total	**1,784,619**	**862,156**	**48·3**

[a] Does not include canned hams. Exports to Belgium and the Belgian Congo excluded because exports to these countries were largely made up of canned horsemeat. Exports to France excluded because they include an unknown proportion of canned horsemeat.
Source: *Trade of Canada, Exports.* Ottawa, Dominion Bureau of Statistics.

Canadian exports of canned beef consist largely of a solid pack of meat. Canned hams have recently become an important export item. The major part of the canned ham exports is shipped to the United States which absorbed 88 per cent of the total in 1950 and 93 per cent in 1951.

ERRATUM

Vol. XXII, No. 3, June 1952, article on "Marketing Margins for Canadian Agricultural Products, 1935-51" by F. M. Schrader, Page 53 Table 1, "Fluid Milk" column, please substitute the following figures for those shown in 1949, **8·6**; in 1950, **8·9**, Page 54, Table 2, "Fluid Milk" column, please substitute the following figures for those shown in 1949, **52·0**; in 1950, **48·6**.

THE SELECTION OF PERIODS FOR USE IN CALCULATIONS OF WHEAT YIELDS AS A BASIS FOR LAND CLASSIFICATION IN SASKATCHEWAN

J. ZEMAN

The program of land classification followed in Saskatchewan is comprehensive in scope. Every year since 1936, except in 1942 and 1945, classification work has included the land in from four to 20 rural municipalities. At the present time, the land in 174 municipal units has already been classified and similar work is going on in 17 other municipal units.

The area now classified includes all of the brown soil zones, an area covering 21·6 million acres and comprising 104 municipal units, and the major portion of the dark brown soil zone. In this zone the area classified covers 14 million acres and comprises 70 municipal units.

Table 1.—Average Wheat Yields on Two Soil Types in Saskatchewan; Economic Surveys 1939, 1940 and 1951

Year	Regina Heavy Clay		Weyburn Loam	
	Number of Estimates	Average Yield per Acre	Number of Estimates	Average Yield per Acre
		bu.		bu.
1921	16	19·5	31	13·5
22	17	24·9	31	17·2
23	17	20·0	31	17·0
24	19	21·4	30	14·4
25	20	27·1	30	17·7
26	21	27·0	30	22·4
27	23	21·4	30	16·9
28	27	26·1	31	16·5
29	28	12·8	33	8·1
30	28	11·3	31	6·9
10-year average, 1921-30	....	**21·2**	....	**15·1**
31	29	0·6	33	2·6
32	30	13·9	33	9·8
33	30	15·6	33	4·8
34	30	6·7	33	2·4
35	30	6·3	34	5·6
36	30	14·6	34	4·5
37	36	2·4	48	1·0
38	37	15·2	49	2·8
39	39	15·6	39	4·2
40	25	18·6	23	7·0
10-year average, 1931-40	....	**11·0**	....	**4·5**
41	30	21·5	27	18·4
42	30	27·2	28	21·4
43	30	21·8	28	18·2
44	30	28·5	28	29·7
45	30	22·6	28	20·2
46	30	24·0	28	18·0
47	31	24·4	28	19·3
48	31	27·6	28	19·6
49	31	21·2	28	11·5
50	31	17·8	28	18·3
10-year average 1941-50	....	**23·7**	....	**19·5**
30-year average 1921-50	....	**18·6**	....	**13·0**

Each quarter section of land is classified on the basis of its suitability for wheat production and two main factors are considered in the determination of this suitability: (1) the identification of the predominant soil type and the number of acres of arable land in each parcel, and (2) the average wheat yield per acre over a long period of years. The first factor is physical in character and can easily be determined from soil maps, assessment records and aerial photographs. The second factor has economic implications and is more difficult to determine. The present article will be concerned only with this second factor.

Particular attention should be given to the selection of the period to be used so that it will provide the best possible basis for calculating long-time average yields. It would be presumptuous to assume that one could base his calculations on annual wheat yields since the beginning of wheat farming in Saskatchewan. Agriculturally, the province can be considered to be only about 50 years old. But wheat yields have not always been recorded during the first 20 years and available records are not all complete or accurate enough to be used in the computation of reliable long-time averages.

Table 2.—Average Wheat Yields for Various Periods Prior to 1950 on Regina Heavy Clay and Weyburn Loam Soils

Period	Number of Years	Regina Heavy Clay	Weyburn Loam
		—bushels per acre—	
1921–50	30	18·6	13·0
1922–50	29	18·6	13·0
1923–50	28	18·3	12·8
1924–50	27	18·3	12·7
1925–50	26	18·1	12·6
1926–50	25	17·8	12·4
1927–50	24	17·4	12·0
1928–50	23	17·2	11·8
1929–50	22	16·8	11·6
1930–50	21	17·0	11·7
1931–50	20	17·3	12·0
1932–50	19	18·2	12·4
1933–50	18	18·4	12·6
1934–50	17	18·6	13·1
1935–50	16	19·3	13·7
1936–50	15	20·2	14·3

When the land classification program was initiated many of the pioneer settlers had left the farms on which they had originally settled. Furthermore, only a few of the remaining pioneers were able to provide the enumerators with reliable estimates of yields for the first years of settlement.

Since 1935 over 10,000 yield records have been obtained from farmers in the prairie region of Saskatchewan. The information pertains to varying periods and numbers of years. Wheat yield data obtained in contiguous survey areas and for similar soil types have been grouped in order to provide a larger sample and lengthen the history of production. In the case of the 17 municipal units included in the 1951 survey area they comprised some municipal units where farm tenure studies had been made in earlier years. The yield information obtained from surveys made in 1939 and 1940 was added with a view to building up what may be considered an adequate series of yields from 1921 to 1950 for the Regina heavy clay and the Weyburn loam soils. The 1951 survey brought the yield information recorded in the two previous surveys up-to-date. This information is considered adequate insofar as it includes a sizeable number of records covering a fairly long period of time and drawn from similar soil areas.

A study of Table 1 illustrates the major problem which arises from the variability in wheat yields from year to year. On the Regina heavy clay soils, for example, the yields ranged from an average of 0·6 bushels per acre in 1931 to 28·5 bushels in 1944. On the Weyburn loams the average yield ranged from one bushel per acre in 1937 to 29·7 bushels in 1944.

This wide range in wheat yields constitutes the core of the difficulties involved in selecting an adequate base period. According to the data presented in Table 1, a 10-year period would be inappropriate as a basis for the calculation of long-time average yields. On the Regina heavy clay soils the average for the 1941-50 period is more than double the average for the 1931-40 period and on the Weyburn loam soils the average for 1941-50 is more than four times higher than for 1931-40.

Table 2 was constructed for the purpose of demonstrating what the averages would be if different periods varying from 15 to 30 years were used in the computation of those averages. If 15-year periods are selected undue emphasis is likely to be given to either high or low averages. A longer period, however, will tend to narrow differences and smooth out the effects of a cycle development.

Proceeding on that basis some interesting results are obtained. On the Regina heavy clay soils the averages range from 16·8 bushels per acre for the 1929-50 period to 20·2 for the 1936-50 period. With the selection of 1932-50 as an intermediate period the average becomes 18·2 bushels. On the Weyburn loams the range is from 11·6 bushels for 1929-50 to 14·3 for 1936-50. With the use of the 1932-50 period the average becomes 12·4. In accordance with these observations it would seem that the effects of the wide fluctuations in yields could be eliminated by the use of the 1932-50 period.

It must be noted, however, that the 1925-50 average is 18·3 for the Regina heavy clay soils and 12·4 for the Weyburn loams. This is enough justification for the use of that period. Unfortunately, these are the only two soil types for which yield records have been recorded for such a long period. For the other soil types included in the 1951 survey area yield records are available for only about 20 years.

Thus, for present purposes, one may feel justified in using the 1932-50 period as an indicator of levels of productivity attained in the past and as a guide to expected levels in the future.

A COMPARISON OF SPRINKLER AND SURFACE IRRIGATION COSTS IN ALBERTA, 1950

C. A. Fraser

Since the introduction of sprinkler irrigation into Alberta in 1948 about one thousand systems have been distributed in the province. These systems comprise a source of power, a pump and an arrangement of light-weight, quick-coupling, portable pipe extending over the land to be irrigated. The most common distribution system consists of a main supply line from which two or more lateral lines operate. The water is spread by low-pressure revolving sprinkler heads located at intervals along the lateral lines. When there are no lateral lines the main line serves both as a supply and a distribution line; the sprinkler heads are then placed at intervals along either the entire length of the main line or a portion of its length at its distal end.

The majority of sprinkler systems have been installed on farms in organized irrigation projects where irrigation by surface flooding is the usual practice. In these areas irrigation is regarded as the main source of the moisture required for crop production. A number of sprinkler systems are also used on farms in supplementary irrigation areas. Included in this group are both dryland farms and farms within irrigation districts where rainfall is ordinarily depended on for moisture. On these farms the sprinkler systems assist in carrying crops through drought periods.

Because the sprinkler irrigation equipment is adaptable to almost any type of topography, irrigation is no longer confined to the level land within established irrigation districts. In fact, a considerable area of land both within and without the irrigation districts on which surface irrigation methods used to prove unsatisfactory, can now be irrigated by the sprinkler method. Through control over the rate and the amount of water being applied, the sprinkler system makes possible the watering of land where impermeability prevents the use of surface irrigation practices. The controlled application of water by sprinkler irrigation saves water through the elimination of surface run-off and deep percolation, and at the same time prevents the soil erosion which may result from the movement of surface irrigation water. In dry farming areas where consideration is being given to sprinkler irrigation the main factor bearing on the final decision is the relationship between the costs involved and the expected additional returns over a certain number of years. Even in years when use of the system is not required, provision must be made for costs such as depreciation and interest. On the other hand, in those same years, the farm operator derives some satisfaction from his knowledge that an adequate irrigation system is available when required.

In areas where the farm operator has a choice between surface and sprinkler irrigation, the comparative costs and advantages of each system must be considered. With surface irrigation it is difficult to prevent losses from deep percolation at the top end of the furrow-runs, and dry spots between the ditches. With sprinkler irrigation, water distribution is impaired by the wind and the uneven speed of rotation of the sprinkler heads. On the average, the increase in productive land is about three per cent greater under the sprinkler than under the surface system because of the elimination of the field ditches required for surface irrigation. Ditches have the additional disadvantages of interfering with cultivation and harvest operations and of harbouring weeds. Sprinkler irrigation can be left untended for a long period of time and thus saves labour, whereas surface irrigation usually requires almost continuous care.

Investment.—The most serious disadvantages of sprinkler irrigation consist in the high costs of installation and operation of the sprinklers. Cost data have been obtained from a study of the comparative costs of sprinkler and surface irrigation conducted by the Economics Division during the summer of 1950. Some of the results of this study are presented in this article.

Table 1.—Investment in Land Preparation and Equipment for Surface and Sprinkler Irrigation, 43 Sprinkler and 37 Surface Irrigated Farms, Alberta, 1950

Type of Irrigation	Total Investment			
	Project Irrigation Area		Supplemental Irrigation Area	
	Per Acre	Per Farm	Per Acre	Per Farm
	—dollars—			
Sprinkler	41.00	5,248	34.00	2,788
Surface	7.70	1,486	1.21	140

Table 1 provides data on investment per acre and per farm for each method of irrigation in project irrigation districts and supplementary irrigation areas. With sprinkler irrigation, the sprinkler equipment represents the major part of the investment. And, on fams where surface irrigation is practised, investment includes the land levellers, the ditchers and other machines required to prepare the fields for flooding.

Investment in sprinkler equipment was higher in the project irrigation areas, than in the supplemental areas. In the project areas the larger acreage under irrigation and the higher water requirements necessitated the use of larger systems. On the average, the irrigation systems covered 2·7 acres per set in the project areas whereas they covered only 1·7 acres per set in the supplemental areas. Deliveries per minute were 536 and 522 gallons respectively. Thus, in the project areas the same amount of water was applied to a much larger tract of land each time the equipment was moved, and a larger type of equipment (pumps, pipes, and power units) was used to maintain an adequate pressure.

Investment in equipment for surface irrigation varied widely between the project areas and the supplemental irrigation areas, owing mainly to differences in the predominance of this method of irrigation between the two areas.

Table 2.—Comparative Costs of Sprinkler and Surface Irrigation, 43 Sprinkler Irrigated Farms and 37 Surface Irrigated Farms, Alberta, 1950

Item	Crop				
	Sugar Beets	Peas	Wheat	Oats and Barley	Hay and Pasture
	—dollars—				
Project Irrigation Areas					
Cost per Acre:					
Sprinkler	13.36	7.86	8.01	9.06	10.12
Surface[a]	12.18	6.35	6.62	6.01	4.52
Cost per Acre-Inch:					
Sprinkler	1.25	1.87	2.11	2.52	2.20
Surface[a]	1.19	1.16	1.16	1.40	0.51
Supplemental Irrigation Areas					
Cost per Acre:					
Sprinkler			5.94	7.46	9.43
Surface[a]			4.00	3.80	1.71
Cost per Acre-Inch:					
Sprinkler			1.65	2.57	1.96
Surface[a]			0.85	1.12	0.30

[a] Includes value of yield lost in ditches.

One of the chief arguments in favour of the use of sprinkler irrigation on new land is that it eliminates the costs and the detrimental effects of land levelling. These costs, however, are much lower than the costs involved in the installation and maintenance of a sprinkler irrigation system.

For both methods of irrigation, the costs per acre were higher in the project areas than in the supplemental areas. As mentioned previously (Table 1) investment in irrigation equipment was larger and the need for irrigation was greater in the project than in the other areas. Higher investment meant higher fixed costs and the greater need for irrigation meant higher operating costs.

For all crops, surface irrigation was cheaper than sprinkler irrigation. Depreciation and interest charges were much higher with sprinkler than with surface irrigation because the investment in a sprinkler system was several times the amount spent on surface irrigation equipment. Sprinkler irrigation required the continuous use of power, which meant that fuel and oil requirements were greater than for surface irrigation. There was a significant saving in labour under sprinkler but this saving was not great enough to offset the additional expense caused by higher investment and greater fuel and oil requirements. Even after the value of yield lost in ditches was included in surface irrigation costs the cost of surface irrigation remained lower than the cost of sprinkler irrigation.

Labour Requirements.—As illustrated in Table 3 considerable savings in labour are associated with the use of a sprinkler system. On a percentage basis the reduction

Table 3.—Comparative Labour Costs and Requirements of Sprinkler and Surface Irrigation Systems, 43 Sprinkler and 37 Surface Irrigated Farms, Alberta, 1950

Labour	Unit	Crop				
		Sugar Beets	Peas	Wheat	Oats and Barley	Hay and Pasture
Sprinkler Irrigation						
Man-Hours per Acre	Number	5·1	2·2	1·9	2·5	2·9
Cost per Acre	Dollars	3·23	1·38	1·27	1·51	1·83
Surface Irrigation						
Man-Hours per Acre[a]	Number	9·9	3·4	4·2	3·5	2·7
Cost per Acre	Dollars	6·51	2·39	2·86	2·29	1·75

[a] Includes all labour for irrigating, floating, ditching, ditch-filling, cleaning ditches, etc.

in man-hours per acre for various crops was as follows: sugar beets, 48 per cent; peas, 35; wheat, 55; and oats and barley, 29 per cent. Wage rates averaged about 65 cents per hour for either method of irrigation.

On some farms a sprinkler system had been introduced because of the operator's desire to avoid overwork, as a result of their inability to secure good surface irrigators.

Grain Yields.—A comparison of crop yields other than grain yields was impossible owing to the small number of fields in various other crops in either the sprinkler or the surface irrigation systems.

Wheat, oats and barley yields with surface irrigation were averaged. The average was given a rating of 100 per cent and all surface and sprinkler yields were then indexed on that basis. In doing this work, soil ratings were taken into consideration in order to discover any existing relationship between grain yields and the suitability of the soil for irrigation.

It is often claimed that sprinkler irrigation contributes to higher yields because it provides for good water distribution, improved germination associated with light applications of water, and a "more natural" method of applying moisture. No scientific data are offered in support of this claim but, nevertheless, it may reasonably be assumed that "germination sprinklings" have increased the yields of the sugar beet and pea crops. On the other hand, grains were seldom submitted to germination sprinklings and generally yielded less under sprinkling than under surface irrigation.

On the poorest soils grain yields averaged the same with sprinkler as with surface irrigation. On the best soils, though, yields were 12 per cent higher with surface than with sprinkler irrigation, in spite of the crop losses which are the unavoidable result of a system requiring many ditches. From this it must not be inferred that sprinkling is an inferior method of irrigation. The results, indeed, give weight to the contention that although light applications of water may have beneficial effects on poor soils they are less adequate on better soils with a greater water-holding capacity. There seems to be little doubt that if water applications were heavy enough to raise the moisture content of the root zones to field capacity sprinkler irrigation would prove to be just as effective as surface irrigation.

In conclusion, it may be stated that grain yields showed a definite relationship to soil ratings. Yields on the best land were 100 per cent higher than on the poorest land with surface irrigation, and 80 per cent higher with sprinkler irrigation. Farm operators should also be aware that irrigation costs are not any lower on the poorest than on the best soils.

RECENT TRENDS IN CANADIAN SHEEP PRODUCTION

J. MANN

In 1951 the number of sheep and lambs on farms in Canada[1] was the lowest since before Confederation. The decline has been irregular with an upward trend from 1925 to 1931 followed by a general decline that was interrupted only during the years 1942-44. In Eastern Canada the decrease has been fairly regular since 1900, while in Western Canada sheep numbers continued to increase until 1944 but fell off rapidly after that date.

The decline in numbers may be attributed to a number of factors, but it is difficult to determine the relative weights that ought to be given to these factors. The competition of other meat animals for the means of production; the difficulty of obtaining labour skilled in the handling of sheep; the increasing cost of adequate fencing; and the still prevalent menace of dogs and predatory animals, are all influences to be considered.

In the ten years between 1932 and 1941 the price of slaughter cattle averaged 61·6 per cent of the price of sheep and lambs, and in the ten years that followed the proportion rose to 87·1 per cent. The increase in cattle prices relative to lamb prices seems to have been one of the important factors in the reduction of the sheep population in the Prairies since 1944. One analyst[2] has noted that "with the sharp drop in range sheep numbers since 1945, which in numerous cases has involved the closing out of all sheep operations, cattle have taken over the ranges".

---

[1] At June 1st.

The decline in sheep numbers in Eastern Canada, extending over a longer period than in Western Canada, appears to be partly due to other causes. Sheep depend for about 95 to 98 per cent of their feed on roughage[3], and sheep raising has tended to be carried on in areas where extensive rather than intensive agriculture is practised; in hilly country and on light sandy soils where a large amount of land is available per animal unit.

As the human population in Eastern Canada has increased, intensive agriculture has provided a more profitable activity for the available agricultural labour, with the result that sheep-raising has become of minor importance compared with such enterprises as dairying and beef cattle raising.

Labour appears to have been a more important factor than land, in this case, for there was a decrease of four million acres, or 8·5 per cent, in the total acreage in farms in Eastern Canada between 1941 and 1951, suggesting that the decline of the sheep population was not due to any shortage of land. The last ten years have been a period of great industrial expansion in Ontario and Quebec, and only the more profitable forms of agricultural enterprise have been able to resist the movement of farm labour to the cities.

Canada was a net importer of mutton and lamb in the period from 1935 to 1943 but since 1943 has exported an average of 4·5 million pounds annually. This latter period coincides with one of declining per capita consumption of these products which suggests that a profitable export market was supplied partly as a result of a reduction of breeding stock and partly due to a shift of supplies from the domestic to the export market.

The decline in the sheep population of Canada during the last three years has become less marked indicating a halt in the reduction of flocks in the near future. (Table 2). However, the building up of flocks will likely lag behind the building up of beef cattle herds which is already under way, so that prospects for lamb prices relative to beef prices appear favourable for the next few years.

Per capita consumption of lamb and mutton in Canada has dropped very appreciably since pre-war years (Table 3). However, due to the increasing human population, total civilian domestic consumption has not decreased as rapidly as per capita consumption. In 1951 total civilian domestic consumption exceeded the estimated total weight of sheep and lambs slaughtered in Canada for the first time since 1939, and Canada had a deficit of some 305,000 pounds of mutton and lamb. It appears likely that even if the pre-war per capita consumption level is not regained that there will probably be a good domestic market for a large proportion of the lamb and mutton that is likely to be produced in the next few years.

Farm income from the sale of wool in Canada has usually been of secondary importance to income from the sale of sheep and lambs for meat. Wool from western range sheep is usually of finer quality than that from sheep raised in the East, and farm income from wool production in the West constitutes a larger percentage of total farm income from sheep and lamb operations than it does in the East. In the ten years 1941 to 1950, income from the sale of shorn wool in Ontario, Quebec and the Maritimes averaged 16·7 per cent of the total farm income from the sheep and lamb industry in that region. The comparable figure for the Prairies and British Columbia is 21·9 per cent. Thus although sheep are raised primarily for meat, especially in Eastern Canada, farm income from the sale of wool constitutes a valuable addition to the total.

---

[2] Harlan, C. L. *Canadian Livestock Industry.* Washington, The Office of Foreign Agricultural Relations, U.S. Dept. of Agriculture. 1951. p 22

[3] Archibald, E S. *The Future of the Livestock Industry in Western Canada.* Agric. Institute Review Dec. 1945. p. 96.

The sheep industry in Canada has been faced with serious problems, some of them problems of production, others problems of marketing. These problems have resulted in the reduction of the Canadian sheep population to a very low level. There are indications that the reduction in sheep numbers may be coming to a halt, and the prospects for lamb prices in the next few years are good.

Table 1.—Yearly Weighted Average Price per Hundredweight of Total Sales on Stockyards in Canada

—	Cattle	Sheep and Lambs	Cattle as Per Cent of Sheep and Lambs
	dollars		per cent
1931	4·30	6·40	67·2
1932	3·60	4·80	75·0
1933	3·00	5·35	56·1
1934	3·10	5·60	55·4
1935	3·70	6·15	60·2
1936	3·45	6·80	50·7
1937	4·15	7·35	56·5
1938	4·35	7·16	60·8
1939	5·10	8·03	63·5
1935–39 Average	4·15	7·10	58·5
1940	5·70	8·27	68·9
1941	6·69	9·73	68·8
1942	8·39	10·95	76·6
1943	9·46	10·79	87·7
1944	8·85	9·95	88·9
1945	9·00	10·55	85·3
1946	10·00	11·80	84·7
1947	10·92	12·03	90·8
1948	15·19	16·98	89·5
1949	16·20	19·34	83·8
1950	21·17	23·91	88·5
1951	28·22	29·62	95·3
1951 as % of 1935-39 average	680·0	417·2	—

Source: *Livestock and Animal Products Statistics.* Ottawa, Dominion Bureau of Statistics. 1943.
Livestock Market Review. Ottawa, Canada Dept. of Agriculture. 1948 and 1951.

Table 2.—Sheep and Lamb Population and Slaughter, Canada, 1941-51

June 1st	Sheep Population [a]	Estimated Total Slaughter Sheep and Lambs [b]	Population: Percentage Change from Preceding Year	Slaughter: Percentage Change from Preceding Year
	thousand head		per cent	
1941	2,840	1,392	—	—
1942	3,197	1,369	+12·5	− 1·7
1943	3,459	1,509	+ 8·1	+10·2
1944	3,726	1,415	+ 7·7	− 6·2
1945	3,622	1,634	− 2·8	+15·5
1946	2,942	1,674	−18·8	+ 2·4
1947	2,707	1,554	− 8·0	− 6·9
1948	2,247	1,148	−17·0	−26·4
1949	2,075	1,023	− 7·7	−10·9
1950	2,015	856	− 2·9	−16·3
1951	1,968	825	− 2·3	− 3·6

[a] *Reports on the Livestock Survey.* Ottawa, Dominion Bureau of Statistics. Annually.
[b] *Supply and Disposition of Meats and Lard.* Ottawa, Dominion Bureau of Statistics. Annually.

Table 3.—Consumption of Lamb and Mutton, and Slaughter of Sheep and Lambs, Canada, 1935-51

Year	Per Capita Civilian Consumption	Total Civilian Domestic Consumption	Estimated Dressed Weight of Slaughter	Civilian Domestic Consumption as Percentage of Slaughter
	pounds	thousand pounds		per cent
1935	6·0	64,729	63,087	102·6
1936	5·6	60,868	62,733	97·0
1937	5·6	61,924	60,289	102·7
1938	5·4	60,694	60,671	100·0
1939	5·4	60,677	60,304	100·6
1940	4·5	50,807	52,461	96·8
1941	4·9	54,844	58,413	93·8
1942	5·0	55,766	56,473	98·7
1943	4·6	51,681	62,092	83·2
1944	4·8	54,497	57,727	94·4
1945	4·7	53,846	69,008	78·0
1946	4·8	58,806	71,249	82·5
1947	4·8	60,181	67,257	89·5
1948	3·5	44,867	47,494	94·5
1949	3·0	40,841	43,641	93·6
1950	2·5	34,325	35,691	96·2
1951	2·6	36,288	35,973	100·9

Source: *Supply and Disposition of Meats and Lard.* Ottawa, Dominion Bureau of Statistics. Annually.

PUBLICATIONS OF THE ECONOMICS DIVISION

Alberta Farm Land Value and Market Situation. *Askin, T. H.* Processed pub. Ottawa. May 1952.

The main purposes of this study of the Alberta farm land value and market situation were:

(1) To trace the course of recent changes in Alberta farm values;

(2) To examine the methods of financing the transfer of ownership; and

(3) To discern some of the significant factors affecting farm values.

The author divides his report into two main parts: the Alberta Land Market and Land Finance. The first part deals with agricultural regions, cropland, irrigated land, selling price and assessed value of land, volume of sales and supply of and demand for land. The section on Land Finance deals with terms of sale, debt carrying capacity, crop-share payment of debt and the various sources of credit available to Alberta farmers.

The Transportation of Milk from Farm to Dairy in a Part of the Montreal Milkshed. *Burton, G. L.* Tech. Bul. No. 19. Macdonald College, McGill Univ. in co-operation with the Economics Div. Ste. Anne de Bellevue, Que., Macdonald College. April 1952.

The main objective of this study of the transportation of milk from the farms to the dairies was to find out how the prices charged for hauling milk are determined and whether these prices are too high in relation to hauling costs. A corollary objective was an investigation of the possibilities of reducing these costs.

The report itself contains a description of the structure of the Montreal fluid milk market, the trucking regulations and the characteristics of the truck routes and an analysis of returns to the trucking enterprises, variations in truckers' returns, truck utilization and operating costs, duplication of routes and number of deliveries. In the last part of the report the author attempts to find an answer to the two following questions: "Why are trucking rates too high?" and "What can be done about it?"

Hog Marketing in Grey County, Ontario, April 1950. *Rackham, T. S.* Processed pub. Ottawa, April 1952.

A study dealing with the marketing of hogs in Grey County, Ontario, between March 27 and April 22, 1950. The main topics discussed in the report are:
(1) Distribution of Grey County hogs;
(2) Producers' participation in the marketing process; and
(3) Gross and net prices;

Farm Practices in Central Saskatchewan. *Clarke, J. W.* Processed pub. Economics Div. in co-operation with the Dept. of Farm Management of the Univ. of Saskatchewan. Processed by the Agricultural Representative Services, Saskatchewan Department of Agriculture, Regina. 1952.

This study was undertaken for the purpose of determining those "features of farm organization and farm operation which tend to soften the impact of weather fluctuations and yield the best results". In the report particular attention is given to the following topics: cropping systems, cultural methods, moisture conservation, soil management practices, crop hazards, livestock and general business practices.

Livestock Marketing in Western Canada. *Carmichael, J. S. and T. S. Rackham.* Processed pub. Research and Statistical Services, Dept. of Co-operation and Co-operative Development, Prov. of Saskatchewan in co-operation with the Economics Div. Regina, Sask. 1952.

This comprehensive study of livestock marketing in Western Canada was conducted at the request of a committee representing co-operative groups of livestock producers in the four western provinces. Its two main purposes were:

(1) To obtain information on the marketing of various kinds of livestock in Western Canada, to be used as a basis for future marketing programs promoted by producers or governments, and

(2) To provide information that will enable producers and co-operatives to decide on the practicability of setting up co-operative packing plants. The four major parts of the report deal with the following topics: production, marketing of livestock in Western Canada, marketing methods and institutions, and the livestock industry in Western Canada.

The Poultry Enterprise on Forty-Nine Manitoba Farms, 1948-1949. *Blaich, O. P.* Processed pub. Economics Div. in co-operation with the Manitoba Dept. of Agriculture and the Univ. of Manitoba. Ottawa. March 1952.

A preliminary report on the first year's findings of a three-year study of the economic aspects of the poultry enterprise on some Manitoba farms. The author describes and analyses the physical and financial aspects of the poultry enterprise, poultry markets and prices, and the management factors which contribute to the success of a poultry enterprise.

The Market for Farm Products in the Province of Newfoundland, 1948-50: 2. The Market for Dairy Products in St. John's, 1949-50; and **3. The Market for Fruit in St. John's, 1949-50.** Processed preliminary reports. Economics Div. in co-operation with the Dept. of Natural Resources, Agricultural Div., St. John's, Newfoundland. Ottawa. March and May 1952.

These two reports form part of a series of preliminary reports on the market for farm products in the province of Newfoundland. The first report was entitled "The Market for Vegetables in St. John's, 1949-50" and appeared in the April 1952 issue of *The Economic Annalist.* The second report deals with the market for milk, powdered milk, cream, cheese, butter and margarine. The third report contains a brief study of the market for apples and other tree fruits, small fruit, citrus fruit and bananas, dried and various other types of fruit.

Provincial Agricultural Legislation in the Atlantic Provinces, 1950. Processed pub. Ottawa. February 1952.

A reference paper prepared by Frank Shefrin and Viviane H. Matte. The paper presents a summary of agricultural legislation enacted in the provinces of New Bunswick, Nova Scotia, Prince Edward Island and Newfoundland. Its comprehensiveness is indicated by the headings of the various sections: administration, agricultural production, land policies, marketing of farm products, agricultural societies and agricultural education, farm credit, agricultural co-operation, credit unions, and rural electrification.

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS
G. P. BOUCHER, Editor

OCTOBER 1952 Vol. XXII, No. 5

CONTENTS

Page

The Economic Situation 99

The Sheep Enterprise on Ontario Farms .... *S. C. Hudson and J. G. Carson* 101

Farming in the Rainy River District of Ontario .... *H. W. Trevor* 108

Farm Ownership in Quebec .... *A. Gosselin* 112

The Strawberry Enterprise on Nova Scotia Farms ...... *G. C. Retson and V. A. Heighton* 116

Publications of the Economics Division 119

Other Publications 120

MARKETING SERVICE, ECONOMICS DIVISION
J. F. BOOTH, Chief

Published by Authority of the Right Honourable James G. Gardiner,
Minister of Agriculture

ANNUAL AND MONTHLY INDEX NUMBERS

WHOLESALE PRICES, FARM PRICES AND LIVING COST INDEXES

Year	Wholesale Prices 1935-39=100				Farm Prices of Agricultural Products 1935–39=100 (e)	Commodities and Services used by Farmers 1935-39=100		Cost of Living 1935-39=100	
	(a) General Wholesale Index	(b) Farm Products	(c) Field Products	(d) Animal Products		(f) Equipment & Materials	(g) Eleven Factor Index	(h) Farm Living Costs	(i) Urban Living Costs
1913	83·4	....	....	....	....	85·4	....	80·1	79·1
1914	85·4	....	....	....	....	90·2	85·3	82·3	79·7
1915	91·8	....	....	....	....	96·9	91·6	86·5	80·7
1916	109·8	....	....	....	....	101·7	100·5	93·7	87·0
1917	148·9	....	....	....	....	140·7	140·5	111·5	102·4
1918	166·0	....	....	....	....	164·1	160·2	131·1	115·6
1919	174·7	....	....	....	....	169·1	167·9	143·0	126·5
1920	203·2	....	....	....	....	190·1	186·5	171·3	145·4
1921	143·4	....	....	....	....	147·4	152·5	139·9	129·9
1922	126·8	....	....	....	....	124·6	134·1	127·9	120·4
1923	127·7	....	....	....	....	118·3	130·6	128·3	120·7
1924	129·5	....	....	....	....	122·3	131·9	125·5	118·8
1925	133·8	....	....	....	....	123·2	131·8	123·9	119·8
1926	130·3	144·4	158·5	130·2	....	119·9	130·6	121·1	121·8
1927	127·3	138·6	149·4	127·8	....	119·9	131·2	119·8	119·9
1928	125·6	136·3	134·3	138·2	....	118·3	129·3	118·5	120·5
1929	124·6	140·8	137·2	144·4	....	117·6	127·9	117·3	121·7
1930	112·9	119·5	105·8	133·3	....	105·6	117·0	113·7	120·8
1931	94·0	78·9	65·0	92·7	....	92·2	100·9	103·9	109·1
1932	86·9	65·5	60·4	70·5	....	89·3	93·3	97·8	99·0
1933	87·4	69·3	69·3	69·2	....	88·8	89·8	95·8	94·4
1934	93·4	83·5	80·5	86·5	....	96·8	95·5	97·9	95·6
1935	94·4	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	96·7	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	107·8	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·0	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	99·2	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	108·0	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	116·4	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	123·0	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	127·9	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	130·6	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	132·1	166·4	162·5	170·2	185·7	125·9	152·1	123·2	119·5
1946	138·9	179·5	177·9	181·2	204·1	128·0	157·0	127·1	123·6
1947	163·3	192·2	184·1	200·2	215·8	139·5	170·4	138·3	135·5
1948	193·4	232·1	200·6	263·7	255·8	173·1	197·4	162·8	155·0
1949	198·3	228·7	191·9	265·4	255·4	180·3	204·1	173·2	160·8
1950	211·2	236·7	191·9	281·4	260·8	189·9	210·4	177·6	166·5
1951	240·2	265·1	193·4	336·9	292·0	206·0	229·9	198·6	184·5
1951									
Oct.	239·6	259·3	188·1	330·4	288·7	....	....	....	190·4
Nov.	239·1	264·9	201·4	328·5	287·6	....	....	....	191·2
Dec.	237·7	266·7	204·4	328·9	287·2	....	....	....	191·1
1952									
Jan.	236·8	263·1	208·0	318·2	284·9	218·1	236·6	228·3	191·5
Feb.	232.6	251·2	205·1	297·3	273.4	....	....	....	190.8
Mar.	230·8	248·3	213·3	283·3	268·1	....	....	....	189·1
April	226·9	245·4	217·1	273·7	265·0	216·9	243·2	209·6	188·7
May	224·8	244·3	223·2	265·4	257·5	....	....	....	186·7
June	226·5	249·5	227·6	271·4	264·8	....	....	....	187·3
July	225·5	244·3	213·3	275·3	263·4	....	....	....	188·0
Aug.	....	236·2	195·3	277·2	....	....	....	....	187·6

(a) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo.) Ottawa, Monthly.
(b) Ibid (a). Wholesale prices of products of Canadian farms.
(c) Ibid (a). Wholesale prices of grains, hay, tobacco and potatoes.
(d) Ibid (a). Wholesale prices of animals and animal products.
(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo.) Ottawa, Monthly.
(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo.) Ottawa, Jan., Apr. and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.
(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.
(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.
(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

THE ECONOMIC SITUATION

Cost of Living.—Canada's cost-of-living index declined from 188·0 to 187·6 between July 2 and August 1, 1952 and thus reached the same level as for July 1951. The lowering of the level was due to lower prices for food, clothing and home furnishings which had an offsetting effect on the higher indexes for fuel and miscellaneous items.

The food index declined from 239·5 to 238·0. Lower prices for fresh vegetables, particularly potatoes, offset increases for eggs, lemons and oranges. The clothing index declined from 209·1 to 208·6 and the home furnishings and services index from 196·7 to 196·0 but the index for fuel and light advanced from 149·8 to 150·1 and the miscellaneous series from 147·4 to 147·8. The rent index was unchanged at 147·9.

Domestic Exports.—Canada's domestic exports in July totalled $371,000,000 in value as compared with $374,500,000 in the corresponding month of 1951. Lower export prices accounted for the lower value of domestic exports, the volume having risen by almost two per cent over the volume in July 1951.

Substantial gains in volume and value raised the total for the first seven months of the year to $2,460,700,000 as compared with $2,114,700,000 in the first seven months of 1951, an increase of almost 16 per cent. The gain in value was mainly due to an increase of about 15 per cent in the volume of exports.

Mainly because of the large gains in exports of wheat and other grains, the value of exports of agricultural and vegetable products increased from $95,050,000 in July 1951 to $125,841,000 in July 1952 and from $450,987,000 for the first seven months of 1951 to $615,757,000 for the first seven months of 1952. On the other hand, exports of animals and animal products declined from $30,068,000 in July 1951 to $26,420,000 in July 1952 and from $204,942,000 in the first seven months of last year to $137,918,000 in the first seven months of this year.

Exports to the United States in July declined from $201,927,000 in 1951 to $188,638,000 in 1952 but only from $1,311,773,000 for the first seven months of 1951 to $1,301,945,000 for the corresponding seven-month period of 1952. Shipments to that country represented 50·8 per cent of the grand total to all countries in July as compared with 53·9 per cent a year earlier; the seven-month proportion dropped from 62·0 to 52·9 per cent.

July exports to the United Kingdom declined from $73,935,000 in 1951 to $68,776,000 in 1952 but the cumulative total for the first seven months of the year rose from $327,458,000 in 1951 to $462,752,000 in 1952.

Wholesale Prices.—The Dominion Bureau of Statistics' index for 30 industrial material prices at wholesale registered a decline from 248·2 on July 25 to 242·5 on August 22. Commodity decreases included iron ore, bleached wood pulp, raw sugar, raw rubber, raw wool, steers, wheat, lead and zinc.

Employment and Payrolls.—Employment in Canada's major industries was higher at the beginning of July than a month earlier and also slightly higher than at the beginning of July 1951. Payrolls reached the highest total on record. Average weekly wages and salaries had declined slightly during June but were well above those of July 1, 1951.

The advance index number of employment (1939=100) stood at 184·5 as compared with 182·5 at June 1 and 183·6 at July 1, 1951. The payrolls index number rose to 423·5 from 420·3 on June 1 and 392·5 on July 1, 1951. Weekly wages and salaries averaged $53.90 as compared with $54.08 on June 1 and $50.17 on July 1, 1951.

Inventories.—At the end of June the value of inventories held by Canadian manufacturers was $3,479 million. This represents a slight decrease from the $3,480 million recorded at the end of May but an increase of 5·6 per cent over the $3,295 million reported at the end of June 1951.

The value of inventories held by consumers' goods industries decreased to $1,977 million at the end of June from $1,988 million at the end of May and $2,076 million at the end of June 1951. For the capital goods industry the total value was $517 million as compared with $534 million the previous month and $384 million for June 1951. Producers' goods inventories rose to $672 million from $660 million at the end of May and $565 million at the end of June 1951 and construction goods inventories to $314 million from $298 million the previous month and $269 million a year earlier.

New Motor Vehicle Sales.—In July 38,510 new motor vehicles were sold for $95 million, an increase of 32 per cent in number and 28 per cent in value over the 29,260 new vehicles sold for $75 million in July 1951. New passenger car sales accounted for much of the increase.

Farm Prices.—The index of farm prices of agricultural products had moved up in June for the first time in almost a year but declined again in July. The index (1935-39=100) stood at 263·4 in July as compared with 264·8 in June and the all-time high of 308·2 in July 1951.

The decline from June to July was due to a drop in potato prices which more than offset increases in live stock, poultry and egg prices. By comparison with a year earlier current prices were lower for grains, live stock, dairy products, poultry and eggs and higher for potatoes.

Wheat.—Visible supplies of Canadian wheat in store or in transit in North America on August 28 totalled 184,269,779 bushels, 38,300,819 bushels more than on the same date in 1951.

Canada's exports of wheat and wheat flour in terms of wheat amounted to 356,100,000 bushels during the crop year 1951-52. These were the largest wheat and wheat flour exports recorded in any year since 1928-29 when exports reached an all-time record of 407,600,000 bushels. Exports of wheat as grain totalled 304,700,000 bushels, only 49,700,000 bushels less than the 354,400,000 bushels exported in 1928-29.

The United Kingdom absorbed about 36 per cent of the 1951-52 combined total of wheat and flour exports and thus continued to be Canada's chief market for these products. Exports of wheat as grain to that country in the twelve months ending July 31, 1952, amounted to 108,800,000 bushels and exports of flour in terms of wheat equivalent totalled 18,800,000 bushels. Corresponding figures for 1950-51 were 78,100,000 and 23,400,000 bushels, respectively.

Meat Supplies.—Meat supplies in Canada have been much higher during the first seven months of 1952 than during the corresponding period of 1951. Total supplies have increased from about 759 million to about 921 million pounds. Pork supplies increased from 430 million to 579 million pounds, beef supplies from 281 million to 299 million pounds, and mutton supplies from four to six million pounds. Veal supplies, on the other hand, decreased from 44 million to 36 million pounds.

Creamery Butter, Cheese and Margarine.—Production of creamery butter was higher but the output of cheddar cheese was lower in the first eight months of 1952 than in the first eight months of 1951. In August the output of creamery butter amounted to 35,542,000 pounds as compared with 34,526,000 pounds in August 1951; the output for the first eight months of the year increased from 181,045,000 in 1951 to 194,772,000 in 1952. Production of cheddar cheese amounted to 9,567,000 pounds in August as compared with 13,376,000 pounds in August 1951 and to 44,880,000 pounds for the January-August period as compared with 59,136,000 pounds for the corresponding period of 1951.

Stocks of creamery butter on September 1 totalled 71,279,000 pounds, a decrease of 12,359,000 pounds from August 1 and 15,584,000 pounds from September 1, 1951. Holdings of cheese totalled 47,472,000 pounds as compared with 43,566,000 pounds on August 1 and 41,287,000 pounds on September 1, 1951.

Production of margarine declined from 7,798,000 pounds in August 1951 to 7,247,000 pounds in August this year. The cumulative output for the first eight months of the year fell from 68,943,000 pounds in 1951 to 67,249,000 pounds in 1952. Stocks held in manufacturers', wholesalers' and other warehouses at the beginning of September rose to 2,178,000 pounds from 1,835,000 on the same date in 1951.

Farm Equipment and Machinery.—Sales of new farm implements and equipment rose to an all-time high of $235,620,000 (mainly at wholesale prices) in 1951, eight per cent above the previous high of $218,187,000 recorded in 1950. Based on an average mark-up of 21·7 per cent, estimated sales of new equipment were valued at about $287,000,000, an increase of about 11 per cent from the $263,000,000 estimate for 1950 when the mark-up averaged 20·4 per cent.

Sales of tractors and engines declined from a total value of $98,001,000 in 1950 to $92,662,000 in 1951 but harvesting machinery sales increased from $44,243,000 to $58,641,000.

THE SHEEP ENTERPRISE ON ONTARIO FARMS

S. C. Hudson and J. G. Carson

Sheep production in Ontario has been following a declining trend since 1931. During the twenty years 1931 to 1951 the number of sheep and lambs on farms in the province was reduced by over fifty per cent, despite the fact that prices paid for lambs have maintained a remarkably stable relationship to prices of beef. (Table 1.) Furthermore, prices paid for wool have been favourable during the past ten years.

The financial position of the sheep enterprise on Ontario farms is shown in the results of a survey carried on in three areas, Grey County, Renfrew and Lanark Counties, and Manitoulin Island, during the fall of 1951.[1] Records were obtained on 61 farms where ten or more breeding ewes were kept. An average of 46·3 ewes were kept on the farms surveyed. Eleven farms had less than 20 ewes, 32 farms had between 20 and 40, 13 farms had flocks ranging between 40 and 100 ewes and five farms had more than 100. The average number of ewes per farm by areas was 51·5 for Grey County, 24·7 for Renfrew and Lanark, and 62·5 for Manitoulin Island. Flocks included in the survey from Renfrew and Lanark Counties were generally small, all being less than 50 ewes. Manitoulin Island farms included 16 flocks having less than 50 ewes and four with over 100. The flocks included from Grey County were representative of the entire range in size from 10 to 162 ewes.

Table 1.—Number of Sheep and Lambs in Ontario and Prices Paid to Ontario Farmers for Wool, Lamb and Beef, 1931-1951

Year	Number of Sheep and Lambs[a]	Prices Paid to Ontario Farmers		
		Unwashed Wool per pound[b]	Lambs per cwt.[b]	Beef per cwt.[b]
	no.	cents	dollars	dollars
1931	1,044,600	8·3	7·24	5·14
1932	1,025,400	5·8	5·46	4·18
1933	972,900	7·3	5·40	3·54
1934	920,500	10·9	6·01	3·80
1935	889,700	9·4	6·37	4·59
1936	819,100	13·7	7·13	4·41
1937	793,000	20·9	7·88	5·63
1938	762,000	12·1	7·69	5·08
1939	735,500	12·2	7·90	5·60
1940	694,600	21·2	8·65	6·35
1941	661,900	24·3	9·53	7·21
1942	688,904	27·0	11·24	9·33
1943	737,486	28·6	12·64	10·45
1944	736,783	28·6	11·77	9·91
1945	724,257	28·7	12·11	10·50
1946	701,080	28·8	13·32	11·22
1947	667,500	29·2	14·12	12·37
1948	571,600	30·3	18·22	17·69
1949	511,800	31·5	21·78	19·14
1950	504,100	33·0	24·67	23·38
1951	475,400	77·1	32·20	30·54

[a] Source: *Annual Report of the Statistics Branch*, Ontario Department of Agriculture.
[b] *Monthly Crop Report*, Bulletin No. 377, May 1952, Ontario Department of Agriculture.

---

[1] This survey was carried on by the Economics Division, Marketing Service, with the co-operation of the Livestock and Poultry Division, Production Service, Canada Department of Agriculture.

Table 2.—Land Use, by Areas, on 61 Ontario Farms With Sheep, 1951

Land Use	Average Number of Acres per Farm			
	Grey County	Renfrew and Lanark Counties	Manitoulin Island	All Areas
	— acres —			
Mixed Grain	27	10	13	16
Oats	15	19	10	15
Other Grain	7	9	2	6
Hay	44	44	70	53
Other Crops	5	3	2	3
Total Crops	98	85	97	93
Summerfallow	2	1	1	1
Rotation and tillable long-term pasture	62	52	30	48
Non-tillable long-term pasture	58	58	341	152
Woods pastured	20	28	115	54
Total Pasture and Summerfallow	142	139	487	255
Woods not pastured	74	61	36	57
Wasteland	31	26	12	23
Yards, roads and fences	5	3	2	3
Total Acreage	**350**	**314**	**634**	**431**

Farm Organization

The farms studied in all three areas were essentially similar in organization, all being mixed livestock farms. (Table 2). Farms were similar in size in Grey and in Renfrew and Lanark Counties, averaging 350 acres for Grey and 314 acres for Renfrew and Lanark. A few ranch-type farms were included in the Manitoulin Island group, which averaged 634 acres per farm. Crops averaged 98 acres per farm for Grey County, 85 acres for Renfrew and Lanark, and 97 acres for Manitoulin Island. The cropland acreage was fairly evenly divided between grain and hay in Grey and Renfrew and Lanark, but grain crops were only one-third of the cropland acreage in Manitoulin Island. The grain crops grown were largely oats and mixed grain, produced for feeding on the farm. All farms were characterized

Table 3.—Average Numbers of Livestock per Farm on 61 Ontario Farms with Sheep, by Areas, 1951

Kind of Livestock	Area			
	Grey County	Renfrew and Lanark Counties	Manitoulin Island	All Areas
Cows	7·2	10·9	15·3	11·1
Young Cattle	11·8	9·6	6·6	9·4
Calves	6·2	5·8	8·0	6·6
Bulls	·6	·9	·4	·6
Horses	2·3	2·8	2·1	2·6
Brood Sows	1·7	1·8	1·2	1·6
Hogs	11·8	5·1	2·8	6·6
Pigs	7·5	3·5	2·0	4·4
Hens	59·4	80·3	....	4·2
Turkeys	·3	6·0	24·6	10·1
Sheep	55·1	26·8	82·8	54·9

by an abundance of good pasture land for the grazing of livestock. Much of the pasture is rough land which is not suitable for cultivation. As a consequence, livestock and livestock products provide the principal sources of farm revenue.

An average of 11 cows were kept per farm. Milk was produced for the manufacture of butter and cheese and calves were raised for sale as veal and beef. An average of 1·6 sows per farm were kept, providing a number of hogs for sale and home use. Most farms kept a small farm flock of hens, but commercial flocks of turkeys were found on two farms in Renfrew and Lanark and on four farms on Manitoulin Island. These, together with sheep, made up the livestock program on the farms studied. (Table 3).

The average capital investment on the farms studied was $25,278 per farm. (Table 4). Of this amount, real estate made up $11,992. The value of all barns averaged $3,235 per farm, of which $734 was considered as the value of the share of the barns chargeable to sheep. Total investment in equipment averaged $4,680 per farm, only $50 of which was made up by special equipment for sheep. Investment in livestock averaged $8,606 per farm, of which $1,837 was accounted for by sheep. That part of the total investment chargeable to the sheep enterprise, therefore, averaged $2,621 per farm, or about ten per cent of the total farm investment. The total investment chargeable to sheep averaged about $57 per breeding ewe.

Table 4.—Average Capital Investment per Farm on 61 Ontario Farms with Sheep, by Areas, 1951

Investment	Grey County	Renfrew and Lanark Counties	Manitoulin Island	All Areas
	— dollars —			
Land	7,505	5,163	5,861	6,176
House	3,279	2,284	2,180	2,581
Barns (sheep)	992	257	952	734
Barns (other)	3,008	2,296	2,200	2,501
Total Real Estate	14,784	10,000	11,193	11,992
Equipment (sheep)	71	29	49	50
Equipment (other)	5,651	4,336	3,903	4,630
Total Equipment	5,722	4,365	3,952	4,680
Livestock (sheep)	2,282	910	2,318	1,837
Livestock (other)	7,325	6,656	6,327	6,769
Total Livestock	9,067	7,566	8,645	8,606
Total Average Investment per Farm	**29,573**	**21,931**	**23,790**	**25,278**

Costs and Returns on Sheep

Receipts.—Gross income from the sheep enterprise averaged $1,667 per farm for all 61 farms studied, as compared with an average of $1,947 for Grey County, $866 for Renfrew and Lanark, and $2,174 for Manitoulin Island. (Table 5). The principal source of income was from sale of lambs, followed by sale of wool. An average of 40 lambs were sold per farm. The price received per lamb averaged $30 for all farms but varied from $18 to $54 on individual farms. Wool sales averaged $6.62 per ewe. The average price of wool was 93 cents per pound, but it varied from 40 cents to $1.22 per pound between farms. Most farms sold their wool through the Canadian Co-operative Wool Growers. Other cash credit items included sales of ewes and rams from the flock, and compensation for losses from dogs. Non-cash credit items included lamb or mutton consumed by the farm household, an allowance covering the value of manure to the farm and increase in the inventory of the flock. Against these items a deduction must be made covering purchases of ewes and rams added to the flock. The gross income per ewe averaged about $36 for each of the areas.

Expenses.—Expenses charged against the sheep enterprise were classified under the headings: farm grown feeds, commercial feeds, miscellaneous expenses, and depreciation and investment expenses. Total expenses, other than labour, on the sheep enterprise averaged $725 per farm for all farms and $819, $360, and $991, respectively, for the Grey County, Renfrew and Lanark and Manitoulin Island areas. Expenses per breeding ewe averaged about $15 for all areas. While many of the non-cash expense items such as home grown feeds and depreciation and investment expenses are not normally charged to the sheep enterprise by farmers, they must be included in appraising the profitability of sheep as part of the farm business. However, since a large proportion of the expenses on sheep are non-cash, the sheep enterprise can be made to fit into a general farm program without any great increase in cash operating expenses. Capital outlays covering the initial purchase of the flock as well as replacements must be considered. The average cost of ewes for replacement was $34.50 and the average salvage value of ewes sold was $25.45.

Table 5.—Average Costs and Returns on the Sheep Enterprise on 61 Ontario Farms, by Areas, 1951

Costs and Returns	Grey County	Renfrew and Lanark Counties	Manitoulin Island	All Areas
Number of farms	(21)	(20)	(20)	(61)
Number of ewes (November 1, 1950)	(51·5)	(24·7)	(62·5)	(46·3)
Income—		— dollars —		
Sales:				
Ewes	177	35	411	207
Rams	29	6	21	19
Lambs	1,381	595	1,582	1,189
Wool	340	197	381	307
Compensation	70	9	21	33
Other Credits—				
Home Use	8	6	16	10
Credit for manure	60	29	86	59
Net Inventory Increase	400	63	709	391
Less: Purchases	518	74	1,053	548
Gross Income	**1,947**	**866**	**2,174**	**1,667**
Costs—				
Farm Grown Feeds:				
Hay	249	155	331	245
Grains	108	38	173	106
Silage	5	2	....	3
Pasture	155	69	176	134
Commercial Feeds:				
Bran (concentrates)	11	1	9	7
Minerals	7	4	3	5
Salt	6	3	7	5
Miscellaneous Expenses—				
Veterinary and medicine	28	4	10	14
Freight, trucking, insurance	58	14	100	57
Shearing	10	7	18	11
Other	7	....	1	3
Depreciation and investment expenses—				
Use of equipment	10	5	7	8
Use of buildings	71	19	59	50
Investment in flock, 5%	94	39	97	77
Total Costs	**819**	**360**	**991**	**725**
Net Returns to Labour	**1,128**	**506**	**1,183**	**942**

Table 6.—Average Number of Hours of Man Labour on Sheep, 61 Ontario Farms, 1950-51

Task	Average Labour per Flock	Per cent of Total
	hours	per cent
Feeding	148	29·9
Cleaning building	25	5·0
Shearing	12	2·4
Dipping	7	1·4
Lambing	157	31·6
Castrating	4	0·8
Docking	4	0·8
Herding	100	20·1
Weaning	5	1·0
Marketing	8	1·6
Other	27	5·4
Total	**497**	**100·0**

Net Returns.—Because of the difficulties in estimating the value of family labour involved in caring for the sheep flock, labour other than custom shearing has not been included as an item of expense. The returns which make up the difference between receipts and expenses are, therefore, the net returns to labour. The net returns to labour per farm averaged $942 for all farms, and averaged $1,128 in Grey County, $506 in Renfrew and Lanark, and $1,183 for Manitoulin Island. Calculated on a "per ewe" basis, the net returns to labour for each ewe included in the flock in November, 1950, averaged $20.

Labour.—Estimates were obtained from the farmers interviewed concerning the number of hours of man labour required on the sheep enterprise. The average labour requirement per flock amounted to 497 hours (Table 6). On the basis of this estimate, the returns per hour of labour on the sheep enterprise averaged $1.90. The labour requirements per breeding ewe in the flock averaged about ten hours, for all areas. Lambing, feeding and herding were the three jobs requiring the greatest amount of labour, accounting for 81 per cent of the total. On a seasonal basis, some 40 per cent of the labour occurs in the spring, including such tasks as cleaning buildings, shearing, dipping, lambing, castrating and docking. On 67 per cent of the farms shearing was done on a custom basis at about 30 cents per head by a shearer equipped with power shears, who went from farm to farm. On the other farms shearing was done by the farm help using hand-powered shears. In general, shearing was done after lambing.

Factors Affecting Returns

On the 61 farms studied, the net returns to labour on the sheep enterprise varied widely between farms. One farm showed a loss of about $400, but returns on some other farms were as high as $5,000. Similarly, the returns per ewe varied from a loss of $8 to a profit of $49 on individual farms. Two factors are largely responsible for this variation in returns. These are (1) the number of ewes in the flock and (2) management practices.

Table 7.—Relation of Size of Sheep Flock to Labour Returns, 61 Ontario Farms, 1951

Size of flock	Number ewes in flock		Number of farms	Labour Returns per flock
	Range	Average		
				$
Small	10–24	18·3	21	366
Medium	25–49	34·4	28	824
Large	50 and over	123·3	12	2,225
Totals and Averages	....	**46·3**	**61**	**942**

Size of flock.—The number of ewes on the 61 farms studied varied from ten to 405. When the farms were grouped according to number of ewes into small, medium or large flocks it was found that the returns to labour from the sheep enterprise averaged $366 for the small flocks as compared with $824 for the medium sized flocks and $2,225 for the large flocks. (Table 7). Little variation was found in the receipts and expenses per ewe as between flocks of different sizes, with the result that average labour returns per ewe did not show any significant differences. Experience would suggest the desirability of having flocks of sufficient size to justify the labour necessary for the provision of adequate protection and the close attention required for the best results.

Management Practices.—The main objective in management on both large and small flocks is to raise to market age a maximum number of lambs per ewe. The relationship of effective flock management to labour returns, expressed in these terms, is shown in Table 8. Farmers who raised less than one lamb per ewe had an average labour return of $12 per ewe, as compared with $22 per ewe for those raising 1 to 1·3 lambs and $31 per ewe for farms which raised 1·3 or more lambs per ewe. The average number of ewes per farm, for the above three groups, was 45, 53 and 36, respectively, and labour returns per flock averaged $554, $1,170, and $1,142. The average number of lambs born per ewe increased from 0·7 for the first group to 1·1 and 1·4, respectively, for the other groups. At the same time the lamb losses were over 26 per cent of the number of lambs born in the group which raised less than one lamb per ewe as compared with 12·8 and 14·8 per cent, respectively, for the other groups. The number of lambs raised per ewe is, therefore, dependent on management as reflected in the number of lambs born per ewe and the effective control of losses.

Table 8.—Relation of Number of Lambs Raised to Market Age per Ewe to Returns, 61 Ontario Farms, 1951

Lambs Raised per Ewe	Number of Farms	Lambs born per Ewe	Lamb losses in per cent of Number Born	Labour Returns per Ewe
		no.	%	$
Less than 1·0	22	0·7	26·4	12
1·0–1·3	26	1·1	12·8	22
1·3 and over	13	1·4	14·8	31
Totals and Averages	**61**	**1·0**	**17·3**	**20**

Feeding.—Proper feeding is, perhaps, the most important single factor in a successful sheep enterprise.[1] Feed is the largest cost item in sheep production, averaging $505 per flock on the farms visited and accounting for 70 per cent of the total expenses on sheep. All farm grown feeds were generally home produced, but three farmers bought hay and one bought grain for feeding to sheep. The feeding costs per ewe, including her lamb, averaged $11 for all farms and varied between $6 and $16 among farms. In calculating the cost of feed, home grown feeds were valued at local market prices and pasture was charged at $2 per ewe and 80 cents per lamb. Hay was the basic winter feed, the average consumption being about one-third ton per ewe. On 52 of the 61 farms hay was supplemented by oats, the average rate of feeding being about 2·5 bushels per ewe. There was considerable variation in the rate of grain feeding in the three areas. An average of 2·0 bushels per head was fed in Grey County, as compared with 1·25 bushels in Renfrew and Lanark and 3·2 bushels on Manitoulin Island. Corn silage was fed on four farms and roots on three farms. Ten farms fed small quantities of bran, and seven fed some ground screenings and flax. Salt was fed on all farms, and 29 farms reported feeding some mineral supplement, usually very small quantities.

---

[1] For a discussion of feeding practices see *Feeding for Market Lamb Production* by S. B. Williams. Canada Department of Agriculture, Publication 872. April, 1952.

Breeding.—The breed preference of the farmers interviewed, in order of popularity, was Suffolk, Oxford, Shropshire and Hampshire. For cross breeding a preference was expressed for the Oxford crossed with the Suffolk, Hampshire or Leicester. Breeding practices on the farms visited varied widely. Only a few farms visited had pure-bred flocks, but about 26 per cent of the farms used ewes of straight breeding with rams of the same breed. Pure-bred rams were used on 87 per cent of the farms visited. The main breeds on these farms were Suffolk and Oxford. Fourteen per cent of the farms reported cross-breeding in which ewes of one breed were crossed with rams of a different breed. On those farms which practised cross-breeding the Suffolk-Oxford cross predominated. Sixty per cent of the farmers reported using cross-bred ewes and rams of straight breeding. Although there was a great variation in the breeding in the cross-bred ewes used, the Oxford-Suffolk and the Oxford-Leicester crosses were most common. Rams used on the cross-bred ewes were usually of the same breed as one of the lines in the ewes. The Suffolk was most commonly used, followed by the Oxford. The fact that a number of farms reported a great variety of breeding in their ewes would seem to indicate the introduction of ewe lambs resulting from these crosses into their flocks. This is contrary to good breeding practices and is likely to result in deterioration of the flock.[1]

For all farms, 34 per cent of the breeding ewes were under three years of age, 45 per cent were three to six years, and 21 per cent were over six years old. The percentage of the ewes in the older age groups was somewhat higher for Manitoulin Island than for the other areas.

Table 9.—Losses of Sheep and Lambs According to Cause, 61 Ontario Farms, 1950-1951

Cause	Sheep		Lambs	
	no.	per cent	no.	per cent
Disease	65	29	97	16
Dogs and Wolves	42	19	103	17
Cast	31	15	....	....
Old Age	25	11	....	....
Lamb birth	16	7	322	53
Indigestion	11	5	13	2
Worms	6	3	20	3
Other	25	11	55	9
Total	**221**	**100**	**610**	**100**

Docking and Castrating.—About 92 per cent of the farms docked and 87 per cent castrated their lambs. Some 59 per cent of the farmers used the knife for docking while 41 per cent used the burdizzo. For castrating 76 per cent used the burdizzo, while 24 per cent favoured the use of the knife.

Losses.—Sheep losses amounted to eight per cent of the number of ewes in the flock at the beginning of the year, while lamb losses were 20 per cent of the lamb crop. Diseases of various kinds were given as the cause of 29 per cent of the loss of sheep, and 16 per cent of the lamb losses. (Table 9). Dogs and wolves together accounted for 20 per cent of the sheep losses and 18 per cent of the losses of lambs. The importance of care during lambing is emphasized by the fact that seven per cent of the sheep losses were reported to have resulted from lambing, while 53 per cent of the lamb losses occurred at or shortly after birth. Fifteen per cent of the sheep losses resulted from the sheep getting on their backs in depressions and not being able to get up.

Treatment for parasites.—Sixty-seven per cent of the farms reported treatment for external parasites. Treatment was carried out by 76 per cent of the farmers in Grey County, by 35 per cent in Renfrew and Lanark and by 90 per cent on Manitoulin Island. Dipping was reported on 34 per cent of the farms, dusting on 23 per cent and spraying on five per cent, and five per cent used both dipping and dusting treatments. On 26 per cent of the farms the entire flock was treated, treatment was given to sheep only on one-third of the farms, and seven per cent treated only the lambs. On 49 per cent of the farms treatment was given in the spring and 18 per cent treated in the fall.

---

[1] For a discussion of breeding practices, see *Breeding for Market Lamb Production*, by S. B. Williams. Canada Department of Agriculture, Publication 865. December, 1951.

Treatment for internal parasites was reported by 67 per cent of the farms. This treatment was carried out by 71 per cent of the farms in Grey County, 50 per cent in Renfrew and Lanark and 80 per cent on Manitoulin Island. In treating for internal parasites, 39 per cent used phenothyazine and 28 per cent used the nicotine and copper sulphate treatment. In Grey County 48 per cent treated with phenothyazine and 23 per cent used nicotine and copper sulphate. In Renfrew and Lanark only 50 per cent treated for internal parasites and all of these used phenothyazine. Twenty per cent of the farmers in the Manitoulin Island group used phenothyazine and 60 per cent used nicotine and copper sulphate.

Outlook

The current high level of employment and personal income provides a basis for a continuing strong domestic demand for meats. Per capita consumption of lamb in Canada declined from an average of about 5·6 pounds for the five years 1935-1939 to a low of 2·5 pounds in 1950, but a slight increase occurred in 1951. In 1951, Canadian production of sheep and lambs was insufficient to meet requirements for domestic consumption for the first time since 1939 and imports exceeded exports.

With an increasing human population, it is expected that prices of lamb and mutton will at least maintain their present relationship to prices of other meats. The price of wool cannot be expected to reach the levels attained in 1951, but it is likely to be as high or higher than during the preceding post-war years.

The reduction in the numbers of sheep on farms in Ontario since 1931 has resulted in part from a liquidation of the small farm flocks which often have been considered as a nuisance in the general farm program. The results of this study indicate that the sheep enterprise is a profitable undertaking when the size of flock is sufficient to warrant close attention and skilled management. Those farmers particularly who have extensive areas of rough pasture and supplies of suitable hay available may find it advantageous to consider sheep production.

FARMING IN THE RAINY RIVER DISTRICT OF ONTARIO[1]

H. W. TREVOR

The northwestern part of the Province of Ontario is a vast area of rough land covered with forests, muskeg, outcroppings of bedrock and water, but it also contains some pockets of clay land suitable for agricultural development. The three major agricultural areas are in the Thunder Bay, the Rainy River and the Kenora districts.

In order to determine the progress already achieved and the problems encountered by farmers and settlers, and to appraise the agricultural potentialities of the area, the Economics Division, in 1950, conducted a study of land settlement in the Rainy River and Dryden sections of the area. This article will be concerned mainly with present-day farming conditions and problems in the Rainy River section.

Description of Area.—The Rainy River district occupies an area of 4,656,640 acres extending for about 170 miles from the Thunder Bay district to the Manitoba boundary and for about 70 miles south from the Kenora district to the international boundary. Practically all of the occupied farm land is located in an area which extends 60 miles west from Fort Frances to Rainy River, and 20 miles north of the Minnesota boundary.

In the area from Fort Frances to Rainy River, the generally rich clay or clay loam soils are capable of producing good yields of a variety of crops. Most of the subsoil is of heavy clay, however, and in some localities this gives rise to a drainage problem. The land becomes increasingly rocky and the soils lighter as one moves north until about 20 miles north of the Minnesota boundary, lakes, forests and muskeg act as a barrier to agricultural development.

---

[1] This is the first of a series of articles on farming in the Rainy River district. The other articles will deal with specific aspects of the farm business in the area.

Except for a narrow ribbon of muskeg running most of the way from Fort Frances to Rainy River and some occasional patches of muskeg, the rich soil of the region open to agriculture covers an almost solid block of land. Reconnaissance soil surveys[1] indicate that the Rainy River district has about 299,000 acres which can be easily developed for broad agricultural purposes. Such land requires simple clearing practices, minor improvements to drainage, and only moderate improvements in soil fertility. The total acreage of potential arable land in the district exceeds 600,000 acres but the acreage already cleared is less than 100,000 acres.

Except for the river flats and part of Dobie township, the eastern half of the agriculturally developed sector of the district is generally rolling or undulating. With the exception of the township of Sifton, the western half is generally level especially in the vicinity of the towns of Pinewood and Sleeman.

The agricultural area of the Rainy River district lies south of the 49th parallel. The average summer temperature is about 64 degrees, the average growing season about 170 days and the average frost-free period about 112 days. The average annual precipitation is about 25 inches and about half of that precipitation occurs during the growing season (June to October). Snowfalls are relatively light and the snow disappears in the spring earlier than in areas with a similar amount of annual precipitation but with a smaller share of it occurring during the growing season.

Hay and pasture crops are abundant and grain crops produce good yields on the well drained soils. Grain crops, however, are subject to damage in years of heavy precipitation and in areas with high water levels.

Transportation and Marketing Facilities.—The Canadian National Railways line which extends from Winnipeg to Fort William also passes through the Rainy River Valley; at Fort Frances this line is connected with the lines to Duluth in the state of Minnesota. The district has a network of good all-weather roads. All provincial highways and many of the main side roads are kept open during the winter months. Most of the highway between Kenora and Emo and all of that from Emo to Fort Frances are hard-surfaced.

The Producers Co-operative Creamery Company has its headquarters at Fort Frances and is the major single agricultural marketing organization of the district. This co-operative has creameries at La Vallee and Rainy River, livestock divisions at Devlin, Emo and Rainy River, and an egg grading station at Emo.

The Canada Packer's plant at Fort Frances provides another market for cream, eggs and poultry. There are two private dairies at Fort Frances which buy fluid milk from the local farmers. A considerable quantity of fluid milk is also shipped to Kenora. A small cheese factory, at Pinewood, makes Italian cheese during the summer months.

The valley is also served by two grain elevators of the McCabe Grain Company. The Rainy River elevator has a storage capacity of 40,000 bushels and the Stratton elevator a capacity of 25,000 bushels.

A large part of the forage crops and livestock is purchased by private buyers right at the farm. Farmers also sell some of their farm produce directly to local merchants.

Agricultural Production.—The volume of agricultural production in the Rainy River district for the year 1951 is indicated in Tables 1 and 2.

Creamery butter production in the Rainy River district amounts to about half a million pounds a year. Production, however, has declined from 655,666 pounds in 1943 to 386,572 pounds in 1950.[2]

The farm value of all crops in 1950 was $1,442,700.[2] This amounted to only two-thirds of the value of all crops in 1948 ($2,165,200) when weather conditions were much more favourable than during the 1950 season.

Number and Size of Farms.—According to the 1951 Census of Agriculture, the Rainy River district has 1,371 occupied farms. Of these farms, 2·5 per cent had less than 10 acres; 5·0 per cent from 10 to 69 acres; 10·7 per cent from 70 to 129 acres;

---

[1] Hill, G. A. and F. F. Warwick, *Reconnaissance Soil Survey of Parts of Northwestern Ontario.* Experimental Farms Service, Canada Dept. of Agriculture and the Ontario Agricultural College. Guelph. December 1944.

[2] *Annual Report of the Statistics Branch,* 1950. Ontario Department of Agriculture.

Table 1.—Acreage and Number of Farms Reporting Different Crops in the Rainy River District, Ontario, 1951[a]

—	Number of Farms Reporting	Acres
Flax	486	8,095
Oats	501	5,440
Barley	286	2,518
Wheat	185	1,073
Other grain	78	737
Hay	1,328	41,207
Other	779	638
All crops		59,708
Pasture		20,047
Summerfallow		5,920
Other		4,619
Total, improved land		90,294
Woodland		112,873
Other		109,532
Total unimproved		222,405
Total Farm Area		**312,699**

[a] Ninth *Census of Canada*, 1951.

37·1 per cent from 130 to 179 acres; 6·9 per cent from 180 to 239 acres; 27·9 per cent from 240 to 399 acres, and 9·9 per cent over 399 acres.

The distribution of farms by the number of improved acres was as follows:—8·3 per cent had less than 10 acres, 54·9 per cent from 10 to 69 acres, 25·5 per cent from 70 to 129 acres, 6·8 per cent from 130 to 179 acres, 2·9 per cent from 180 to 239 acres, and 1·6 per cent over 239 acres.

The average size of farm is somewhat larger in the western part of the area and farmers grow more grain and flax crops and raise more beef cattle than in the eastern part where the farms are more diversified and produce more forage crops and a greater variety of livestock.

Table 2.—Number and Value of Different Kinds of Livestock in the Rainy River District, Ontario, 1951[a]

Kind of Livestock	Number of Farms Reporting	Number	Value in Dollars
Cows and heifers kept mainly for milk purposes:			
2 years and over	819	3,831	
1 year and under 2 years		1,234	
Cows and heifers kept mainly for beef purposes:			
2 years and over	140	796	
1 year and under 2 years		569	
Calves under 1 year		2,932	
Steers 1 year and over		813	
Bulls 1 year and over		291	
All Cattle	**871**	**10,466**	**1,950,980**
Horses	747	1,650	194,205
Swine	420	1,603	71,799
Sheep	143	6,014	171,900
Goats		66	2,640
Hens and chickens	735	57,062	67,713
Turkeys	80	1,275	6,719
Other poultry		395	
Bees (number of hives)	55	324	4,860

[a] Ninth *Census of Canada*, 1951.

Types of Farms.—A feature of the area is the large proportion of farms that may be called "rural dwellings". The owners of these do little or no farming at all. They obtain cheap housing and are in close proximity to work in the lumber camps. Many owners of "rural dwellings" lease their land to neighbouring farmers. Usually only a nominal rent is charged with the stipulation that the renter will keep the land clean.

The Rainy River district also has a large number of "subsistence" farms. The semi-retired operators of these farms are primarily interested in providing for their own living, their farms supplying them with shelter, fuel and food. On these farms the value of the farm products consumed by the household exceeds 50 per cent of the operators' gross revenue. Occasionally the operators sell some cord wood or farm produce to obtain cash for the purchase of some of the necessities that cannot be produced on the farm.

The Rainy River district also includes many abandoned farms. The number of these farms increased during the war and postwar periods when many actual and potential farm operators joined the military services or became employed in war industries and then failed to return to their farms. The excessive precipitation during the years 1949 and 1950 was unfavourable to crops, and this, together with the attractive opportunities associated with the rise in pulpwood prices, caused many farmers to leave their farms.

Most of the full-time farms are of a mixed type. Lush pastures and good forage crops make the Rainy River Valley very suitable for livestock farming. Many farm operators are shifting from crop production to the raising of livestock, but some are still specializing in the growing of flax, grain, hay or potatoes as cash crops.

There is a larger proportion of part-time farms in the northern than in the southern part of the valley, farmers of the northern fringes being more actively engaged in lumbering operations.

Of all farms recorded in the 1941 Census,[1] 43 per cent were full-time, 15 per cent part-time, and 48 per cent subsistence farms.

Major Problems.—The Rainy River area has a large number of successful farms, rich soils, good roads and schools, easily accessible churches, a good telephone system, and electric power in most localities. Land sells at reasonable prices, farmers have well-organized associations and adequate markets for their farm produce. Also, there are good prospects for the development of additional markets.

However, the farm population lacks stability and there is much room for improvement in the management on many farms. A problem that deserves special mention is drainage. Main drainage ditches are needed in many townships, especially in the western sector and in the townships of Crozier and Ruddick. In addition to lateral drainage ditches being the responsibility of each individual farmer, the inadequacy of main drainage outlets is an important problem. The drainage problem entails: (a) the clearing of natural water courses of brush and debris, (b) the carrying of existing road ditches to outlets beyond farm lands, (c) the provision of drainage outlets for land which is located some distance from either road ditches or natural waterways and (d) the digging of lateral drainage ditches.

These problems are not insurmountable nor peculiar to the Rainy River district. Opportunities for settlement still exist for prospective and enterprising farmers. According to a survey of vacant farms and of land suitable for agricultural establishment conducted by some of the community leaders, it was estimated that about 500 new settlers could be absorbed in the Rainy River district within the next five years at the rate of 100 families per year, and that an additional 1,000 settlers could be absorbed, although at a slower rate, after this initial period.

Some of the necessary qualifications required to make a success of farming in the district may be summed up as follows: (a) ambition to make a success of farming, (b) farming experience, and (c) adequate capital to establish an efficient farm business sufficiently large to provide the operator and his family with a good standard of living.

---

[1] Corresponding information is not yet available from the 1951 *Census of Canada.*

FARM OWNERSHIP IN QUEBEC[1]

A. GOSSELIN

The land tenure policy of a country, that is the manner in which farm land may be acquired by individuals, the security with which they may hold it and control its use, and the freedom with which they may dispose of it, is basic to its economic and social development. This problem has been treated in different ways at various times and in different countries. It is possible, however, to find a definite relationship existing between proper land tenure policies and economic prosperity, social welfare and national stability.

Table 1 indicates that the percentage of owner-operated farms is very high in all provinces. Only in the Prairie Provinces is the proportion of tenant operated farms of great significance. The main reasons for the small proportion of tenants in the Eastern provinces are: a type of farming which does not lend itself to tenancy; farms generally too small to provide sufficient returns to both a landlord and a tenant; and a need for improved farm-lease systems which have proved satisfactory in other countries.

Table 1.—Farm Ownership and Tenancy in Canada, by Provinces, 1941 and 1951

—	1941				1951			
	Owners	Tenants	Part-Owners Part-Tenants	Managers	Owners	Tenants	Part-Owners Part-Tenants	Managers
	— per cent —				— per cent —			
CANADA	75·1	12·7	11·6	0·6	77·3	7·2	14·3	1·2
Newfoundland	....	....	....	....	89·6	1·6	7·8	1·0
Prince Edward Island	92·2	2·4	4·7	0·7	91·4	0·8	5·4	2·4
Nova Scotia	92·3	2·7	4·0	1·0	91·7	1·2	4·3	2·8
New Brunswick	92·4	2·5	4·4	0·7	93·0	1·2	3·5	2·3
Quebec	92·7	3·6	3·2	0·5	94·3	1·9	2·8	1·0
Ontario	78·6	11·9	8·6	0·9	81·7	5·9	10·6	1·8
Manitoba	66·1	18·8	14·4	0·7	71·0	9·7	18·7	·6
Saskatchewan	52·9	24·3	22·2	0·6	54·6	14·7	30·1	·6
Alberta	62·7	16·9	19·7	0·6	62·7	11·5	25·0	·8
British Columbia	79·6	10·9	8·5	1·0	84·6	5·8	8·0	1·6

The problems of farm tenure are not limited to matters of ownership, inheritance and tenancy; they are also closely related to such problems as farm credit, prices of farms, capital needed to buy, equip, stock and operate a farm, land appraisal, land-use programs, land settlement policies, rural living standards and especially farm planning and farm management problems. The main factor of success in attaining farm ownership is the ability of the farmer himself (and his family) to operate and manage his business efficiently in order to secure an adequate farm income. An adequate income will enable the farmer to successfully perform all of the various farm operations, meet his living and farm operating expenses, pay his capital debts, raise and educate his family, and save enough money to provide for his old age and the establishment of his children on farms or in other professions or occupations.

Farm ownership is a goal which is not always easy to achieve. Difficulties even seem to be increasing for the prospective owner with only moderate means. Land prices are high and in order to derive full advantage from the use of modern machinery and equipment, he must buy a farm larger than would have been necessary some fifteen or twenty years ago. Thus the prospective purchaser of today requires a larger amount of capital than the purchaser of one or two decades ago if he is to have a farm business of a scale and a type that will give him reasonable financial returns.

---

[1] The first in a series of articles on farm ownership in Quebec.

On the other hand, farm income has witnessed an almost continuous increase during the last ten or twelve years. Government farm loan agencies make credit available to farm purchasers at reasonable interest rates on long-term repayment plans. Social legislation such as old age pensions and family allowances also provide a form of assistance to prospective farm owners.

Research Work in Farm Ownership.—In order to add to our understanding of regional land tenure conditions and provide a framework for further research work directed toward the delimitation and solution of specific land tenure and allied problems, a study of farm ownership in the Province of Quebec was initiated by the Economics Division in the fall of 1950.

According to the 1951 census 95·3 per cent of the 134,336 occupied farms in Quebec are operated by owners (including managers), 2·8 per cent by part owners part tenants and 1·9 per cent by tenants. The study was, therefore, directed towards an answer to the following three questions: how do the Quebec farmers become farm owners?; how are their farms paid for?; and how are they transferred to the next generation? It must be noted that in this study the term "owner" does not necessarily mean that the farm has been fully paid for. In the greatest number of cases the new owner-operator actually paid only a part of the price of his farm and had only a temporary title to it.

It was not possible to obtain information concerning those farmers who tried to become farm owners but who, for one reason or another, failed in the process of attaining ownership. However, it is reasonable to assume that the proportion of failures was rather low.

Method of Survey.—The survey was conducted through mail questionnaires sent to some 4,800 farmers distributed in all counties of the Province of Quebec. The 924 usable questionnaires returned to this Division serve as the basis of this report.

The mail questionnaire method is necessarily limited to obtaining relatively few items of a quantitative nature that can be answered easily with a minimum of instructions. However, it provides an inventory of ownership conditions and opens the way for follow-up studies.

Methods of Farm Acquisition.—The methods through which Quebec farmers become owners are: (1) gifts or deed during parents' life; (2) inheritance; (3) purchase from relatives or from others; (4) homesteading or grant of a colonization lot from Crown lands. In many cases there is a combination of two or three of these methods. Parental assistance and inheritances have always beeen important factors in helping young men to become owners of a farm in Quebec.

The largest proportion of owners (53·4 per cent) reported that they acquired their farm by purchase. Of these farms 30·9 per cent were purchased from relatives and 22·5 per cent from others.

Twenty-six per cent obtained their farms by deed or gift and 12 per cent through inheritance or will. About eight per cent reported that their first farm was a colonization lot that they had improved themselves.

Fifty-five per cent of the owners reported that their farm was the home or family farm. Since in many families there is more than one son who becomes a farm owner, this would indicate that a large proportion of the farms remain in the family.

Age and Marital Status at Time of Farm Acquisition.—For the period covered in this study—the last 50 years—two-thirds of the farm operators reported that they were under 30 years when they first acquired their farm; about one-third of them were under 25 years and one-third between 25 and 30. Twenty-five per cent were from 30 to 39 and nine per cent over 40 years.

As indicated in Table 2 a higher proportion of farmers became owners at a later age in the last decade than in the previous periods. Four-fifths became owners when they were under 30 years in the period before 1930; two-thirds in the period 1930-1939 and only a little more than one-half in the period 1940-1950. The same upward trend in age is noticeable for the other age groups. This would suggest increasing difficulties associated with the acquisition of a farm.

Table 2.—Distribution of Owners by Age Groups and by Periods, Farm Ownership in Quebec, 1950

Period	Number Reporting	Percentage Distribution by Age Group			
		Under 25	25-30	30-39	40 and over
	No.	— per cent —			
Before 1930	331	44·1	35·6	17·0	3·3
1930-1939	247	30·4	32·3	28·0	9·3
1940-1950	323	21·7	31·6	33·1	13·6
Total and Percentage	**901**	**32·2**	**33·5**	**25·7**	**8·6**

More than two-thirds (67·3 per cent) of the farmers reported that they were married when they became owners and many of them for several years. It is assumed that most of the others got married within a few years after they acquired a farm. A ltitle less than two-thirds of those who were married had one or more children. Of the 361 reporting children when they became owners, 164 had one or two; 127 from three to five; 50 from six to nine and 20 had ten or more.

One may thus assume that a high proportion of the new farm owners already had heavy family financial burdens in addition to those pertaining to farm debt payment and operation.

A little more than half (53·1 per cent) of those who were married when they became owners reported that they were under 25 years at that time; 34 per cent were between 25 and 30 and 12 per cent between 30 and 40.

About 58 per cent of those who became owners in the period before 1930 were under 25 years when they married. The number of those in this age group steadily decreased in the decade 1930-39 and was only 47·5 per cent in the period 1940-50.

Farming Experience.—Ninety-five per cent of the farmers reported that they had some farming experience before they became owners of a farm. Two-thirds of them had acquired that experience by working on their parents' farms only. Of these, 57 per cent had worked as unpaid workers; 7·6 per cent partly with and partly without definite wages and 1·3 per cent with wages only.

A small proportion (3 per cent) had worked on farms as hired help only; 5·5 per cent had been tenants; 21 per cent had worked at other occupations such as lumbering, fishing, various trades and city work with a view to accumulating some capital.

Only 4·7 per cent of these owners reported that they had had non-farm experience before they acquired a farm. Among them were a few who had made money in various trades or professions and had a liking for farming as a way of life.

Typical Ways of Becoming a Farm Owner.—There are so many factors involved and so many ways in which farms were acquired and paid for during the past fifty years that it is not practical to deal with this subject on a mere statistical basis and in terms of averages. It may be useful to describe some of the more typical ways of acquiring farm ownership.

One pattern of farm ownership acquisition in Quebec was, and still is, that by gift or deed during the parents' life. When the home farm is transferred to a son by deed the main problems to be faced are: (1) the provision of a sufficient income for two families during the active life of the father; (2) the care of other children and assistance to start them on their own; (3) the building of a "savings account" for the parents for use when they retire from the farm business.

When the son eventually takes over the ownership and management of the farm business he may do so in a number of different ways. In some instances, the parents take a mortgage on the farm as a security and the son is bound to take care of them for the rest of their lives. If the parents and other children continue to live on the farm for some time, as is often the case, all of them work together and the family income is pooled and divided according to various agreements.

Another method of farm acquisition in Quebec is that by purchase from relatives. This is quite different from the purchase from other individuals. For there is always the element of parental financial assistance given to the son as well as the accumulation of capital by the son during the years he worked with his father without wages. In many cases, the father and son use their combined financial resources and credit potentialities to buy a farm and to pay for it. They often operate it jointly for a few years and when the son is ready to take over ownership and management of the business on his own, then a settlement is made. Sometimes the son gets the title to the farm by taking over the mortgage without making any payment to his father. In some instances he has to make a down payment to his father, in others he pays him an annual rental. There are almost as many different agreements as there are individual cases.

Methods of Financing Farm Acquisition.—Before the creation of the Canadian Farm Loan Board in 1929 and of the Quebec Farm Credit Bureau in 1937 the main sources of credit available to prospective farm owners were: the parents, the vendor of the farm and private lenders.

The vendor of the farm usually required a cash down payment which varied from as low as one-fifth to more than half the purchase price of the farm and took a mortgage for the balance with interest at the most common rates of five and six per cent.

During the period 1940-1950 the Quebec Farm Credit Bureau and the Canadian Farm Loan Board were the two main sources of credit for financing the purchases of farms or their refinancing, although the parents, private lenders, the vendor and credit unions remained important sources of credit to the Quebec farmers. Of the 352 farmers reporting loans between 1940 and 1950, 177 had borrowed from the Quebec Farm Credit Bureau and 175 from various other sources.

Adequate credit facilities are very important in making possible farm ownership, but the small amount of money which the prospective farmer has to make a down payment on a farm is often a serious handicap for many would-be farm owners. Consideration must also be given to the need for operating capital. If a young farmer starts with insufficient equipment and livestock his income is not likely to be adequate to meet his interest and capital installment payments and to finance his family's living expenses. It is essential, therefore, that all of his financial resources should not be invested in real estate. Personal credit obtained through parents, credit unions, banks, and merchants may help meet the need for operating capital.

On the whole the general pattern of accession to farm ownership in Quebec does not differ very much from that in other parts of Eastern Canada. The ways young people become farm owners have not changed very much during the past fifty years. The highest proportion of these young people remain and work on their parents' farm for several years as unpaid workers and when the time comes for them to make the choice of a career several factors must be considered. Among these factors, one may mention: the number of children in the family, particularly the number of sons, their individual preferences for a given occupation, the financial resources of the parents and of the prospective farm owner, and the availability of suitable farms in the vicinity. For most young farmers, the acquiring of a farm is not easy. The process of ownership is a family affair which requires a great deal of co-operation, hard work, thriftiness and self-denial from both parents and children.

The Right Hon. C. D. Howe, Minister of Trade and Commerce, announced on September 26 that the United Kingdom will purchase 115 million bushels of wheat or wheat in the form of flour from Canada under the terms of the International Wheat Agreement for registration in 1952-53.

THE STRAWBERRY ENTERPRISE ON NOVA SCOTIA FARMS

G. C. Retson and V. A. Heighton

Strawberries are grown on many of the farms throughout Nova Scotia. The crop is well adapted to the well drained and slightly acid soils found in many sections of the Province. Rainfall is generally adequate and the cool, late spring usually retards growth long enough to avert the danger of frost.

The lateness of the season is another important consideration in the harvesting and marketing of the crop. Picking does not begin until late June, at which time the only competition on the local market is that from other Maritime producers. Any local surplus can normally be disposed of in Central Canadian and North Eastern United States markets where the crop is by this time well past its peak. The termination of the school year occurs at about this time and additional supplies of labour thus become available for picking. Since labour tends to be the limiting factor in strawberry production these additional supplies are very important.

Strawberries for home use, or on a semi-commercial scale, are produced throughout the Province but commercial production tends to be located in fairly well defined areas. Generally these are located near towns or built-up areas which provide a supply of labour for harvesting and a market for the crop.

Another factor which encourages production in specific areas is the development of the strawberry exchanges. These are small local co-operatives which are organized to market the crop. In addition to their marketing activities the exchanges often provide a pick-up service and purchase supplies for their members.

Costs and Returns on the Strawberry Enterprise.—During the summer of 1951 business records were secured from 56 farmers in Nova Scotia. These records cover the organization and operation of their strawebrry enterprises and provide all of the basic data for an analysis of the financial aspects of the strawberry enterprise.

Table 1.—Receipts, Expenses and Returns, 56 Strawberry Enterprises, Nova Scotia, 1951

——	Average per Farm
	dollars
Strawberry receipts	866·00
Strawberry expenses	434·00
Strawberry labour returns[a]	432·00
Strawberry labour returns per bearing acre	299·00
Strawberry labour returns per hour	1·20

[a] Represents the net return to labour for time spent on the strawberry enterprise, aside from labour for picking which was charged as an item of expense.

The 1951 season was a relatively profitable one for strawberry growers in Nova Scotia. Production was down somewhat from previous years but prices were higher than in the preceding five years. Receipts from the strawberry enterprise, which included sales of berries and plants and the value of fruit used in the home, averaged $866 per grower or $601 per acre on the 56 farms studied.

Expenses of the strawberry enterprise averaged $434 per farm. This included the various cash and non-cash items incurred in growing new plantings and in harvesting and marketing the crop. Manure and fertilizer averaged $67 and $23 per acre respectively and accounted for about 60 per cent of the expense on new plantings. Boxes and crates at an average cost of $71 per acre and labour for picking at an average cost of $98 per acre were the two main cost items in harvesting and marketing the crop. Aside from labour for picking which was hired on a piece work basis of slightly over four cents per box no charge was made for the labour involved in producing and marketing the crop. This amounted to an average of 257 hours of labour per acre on new plantings and 64 hours per acre on bearing acreage. The difference between receipts and expenses is the net return for labour on the strawberry enterprise. The labour returns on strawberries averaged $432 per farm or $299 per acre. The returns per hour of labour on strawberries averaged $1.20.

Factors Affecting Returns.—Strawberry labour returns varied widely from farm to farm. The five most successful growers averaged $752 per acre, and the five least successful averaged $31 per acre. This variation in labour returns reflects the differences in soil and climatic factors but is probably mainly attributable to variations in management.

Yield.—Yield per acre appeared to be by far the major factor influencing returns from the enterprise. The average yield of strawberries for all farms in the study was 2,329 quarts per acre. The 28 farms with the highest yield had labour returns of $479 per acre as compared with an average of $169 per acre for the 28 farms with the lowest yields. In view of their influence on returns an attempt was made to analyse the relative importance of some of the various cultural practices which affect yields.

Manure.—Applications of manure averaged 23 tons per acre on new plantings and appeared to be one of the more important factors affecting yields. The 28 farms with heaviest applications of manure secured an average yield of 934 quarts per acre above that of the 28 farms with lowest applications. Growers noted that the moisture holding properties of manure have an important bearing on strawberry yields. The relatively light soils on which the crop was grown, plus the fact that none of the growers in the study used irrigation, probably emphasized the influence of manure applications on strawberry yields.

Fertilizer.—Growers applied an average of 997 pounds of fertilizer per acre on strawberries. Highest yields were associated with applications of fertilizer ranging up to 600 pounds per acre. As rates of application increased beyond 600 pounds per acre there was a decline in the yields of strawberries.

Table 2.—Relation of Fertilizer Applications to Strawberry Yields, 56 Growers in Nova Scotia, 1951

Fertilizer per acre		Number of Farms	Manure per Acre	Yield per Acre
Range	Average			
lb.	lb.	No.	tons	qts.
0-571	423	13	22	2,666
600-800	711	15	25	2,395
1000-1067	1,048	13	23	2,210
1200-2933	1,770	15	20	2,092
Total or Average	**997**	**56**	**23**	**2,329**

One factor which possibly had a bearing on the inverse relationship of fertilizer applications and strawberry yields was the high level of fertility of the land on which the crop was grown. Previous crops and particularly the hoed crops which immediately preceded strawberries received heavy applications of fertilizer and manure. In the case of the high fertilizer groups, applications on the previous year's crops averaged 1,055 pounds of fertilizer and 18 tons of manure per acre. For the low fertilizer groups the comparable applications were 588 pounds of fertilizer and 17 tons of manure. Heavy applications of fertilizer and manure on previous crops, plus those applied directly on strawberries, may in some cases develop a soil condition favouring plant growth rather than set of fruit. Decreased yields due to rot are also associated with heavy top growth, particularly in years of high rainfall. No data were secured on the influence of heavy applications of fertilizer and manure on strawberry quality.

Other Practices.—Analysis was made of the influence on yields and returns of a number of other practices. Of these weed control, use of cover and mulch and carrying over the bearing acreage for a second year's crop appeared to be of major importance.

Twenty-nine of the growers left part of the cover between the rows to serve as a mulch, and 18 growers burned the cover off. Nine growers did not use any cover or mulch. The combined use of cover and mulch was associated with highest yields per acre, with cover appearing to be the major factor.

Growers who were able to carry over part of their bearing acreage for a second year's production secured average labour retuns of $44 per acre more than did those who ploughed down their bearing acreage after one year's crop. Although carrying over the bearing acreage for a second year's crop resulted in lower yields, the practice appeared to be a profitable one since relatively little labour or expense was involved other than for the use of the land and harvesting and marketing the crop. Growers noted that this practice was only practical when old beds were reasonably free of weeds.

Size of Strawberry Acreage.—Bearing acreage on farms included in the study ranged from 0·5 to 6 acres in strawberries, with an average of 1·4 acres per farm. New plantings averaged one acre per farm. While size of business is a major factor influencing total returns, there did not appear to be a marked relationship between the size of the strawberry acreage and labour returns per acre from the enterprise. Farms with the smaller acreages in strawberries secured highest returns per acre. Farms with the larger acreages, however, required less time per acre to produce their crop and thus secured a higher return per hour for time spent on the enterprise.

Labour Efficiency.—Difficulties in developing an adequate measure of labour efficiency limited the analyses made of the influence of this factor on returns. In general, as hours of labour on the enterprise increased there was a corresponding increase in yields and in returns per acre. Growers who spent the largest number of hours of labour per acre on strawberries were, however, somewhat below average in returns per hour of labour for time spent on the enterprise.

Price.—Growers received an average price of 26 cents per quart for strawberries. No serious gluts occurred on local markets, and prices were relatively stable throughout the season. Variations in prices received by growers largely reflected the percentage of the crop disposed of in wholesale or other markets.

The effect of price on returns was offset to some extent by the influence of other factors. Farmers receiving lower prices appeared to be somewhat more efficient producers. The 28 growers receiving the lowest prices for berries secured an average yield of 350 quarts above that of the group receiving the highest prices. Additional time and expense were required to market the crop through higher price outlets.

Relation to Other Farm Business.—Strawberry production is combined quite satisfactorily with most of the other enterprises on Nova Scotia farms. High labour requirements during the picking season comprise the major conflict with other farm operations. In view of the influence of manure on strawberry yields the enterprise is located preferably on farms carrying fairly substantial numbers of livestock.

The intensity of the enterprise helps provide additional volume of business on many of the small farms to be found in the province. Also of importance to small farms is the relatively low cash expense and capital investment required for strawberry production. General farm equipment is adequate for practically all of the operations involved in producing the crop. The advantages of mechanized over horse-drawn equipment are also not particularly significant due to the relatively small acreage and types of operations performed.

As the strawberry crop requires a two-year cycle of new plantings and bearing acreage the period between original investment and receipt of returns from the crop is somewhat longer than for many other cash crops. This is compensated for to some degree by the fact that the crop is marketed early in the season and thus helps finance the cost of other summer operations.

Outlook for Strawberry Production.—The outlook for strawberry production in Nova Scotia appears to be relatively favourable. Reference has already been made to some of the advantages enjoyed by Nova Scotia growers, particularly those due to climate. Commencement of the picking season coincides quite closely with the close of the school year, making available additional labour for picking. By this time the crop in Ontario, Quebec and the northeastern United States is past its peak and surplus supplies of fresh fruit can normally be disposed of with little difficulty on these markets.

Expansion of strawberry production in Nova Scotia would probably result in a substantial increase in shipments of fresh fruit to outside markets. Existing facilities developed by the Strawberry Exchanges and the Markets Information service provided by the Nova Scotia Department of Agriculture and Marketing could be extended with little difficulty to market these increased shipments. Two items which would require some consideration would be increased production of varieties which stand up well in transit and greater uniformity in the type of crates used.

PUBLICATIONS OF THE ECONOMICS DIVISION

Farm Practices in Central Saskatchewan. *Clarke, J. W.* Processed bul. Economics Div., in co-operation with Dept. of Farm Management, Univ. of Saskatchewan. Saskatoon, Sask. 1952.

A report providing information on land use, ownership, occupancy and tenure and an analysis of farm practices in Central Saskatchewan.

Commercial Poultry Farming in Nova Scotia. *Retson, G. C.* Processed bul. Ottawa, March 1952.

The author divides his report into two main parts, the poultry enterprise and factors affecting poultry labour returns and concludes with brief comments on major factors in poultry management, relation of the poultry flock to other farm enterprises and the outlook for poultry production in Nova Scotia.

The Establishment of Economic Farm Units in Northwestern Saskatchewan with Particular Reference to Low-Productivity Land. *Ragush, M.* Processed bul. Ottawa, April 1952.

This study makes use of the budget analysis procedure in an attempt to determine the financial rewards which the average farmer can expect with the resources at his command, in Northwestern Saskatchewan. The author demonstrates that the budget method of analysis can serve as a very useful guide in the establishment of economic farm units.

A Study of the Farm Business in the Carlyle-Moosomin Area of Southeast Saskatchewan, 1948. *Haase, G.* Processed bul. Ottawa, July 1952.

The main parts of this report deal with farm capitalization and the income account, factors affecting farm success, and operators' net worth and financial progress.

Federal Agricultural Assistance Programs Canada, 1900-1951. *Cameron, M. R. and F. Shefrin.* Processed bul. Ottawa, April 1952.

This bulletin replaces earlier reports on wartime and postwar subsidies paid by the Canada Department of Agriculture. Data have been revised and additional information has been incorporated.

Federal Agricultural Legislation in Canada, 1952. Processed bul. Ottawa, July 1952.

This reference paper was prepared by Miss Viviane Matte and is the fourth in a series outlining agricultural legislation in Canada and presents a review of the federal agricultural legislation in effect at the time of publication of the paper.

Co-operation in Canada, 1951. *O'Meara, J. E.* Processed bul. Ottawa, July 1952.

This twentieth annual summary of *Co-operation in Canada* provides a brief review of developments in 1950-51 and co-operative activity in the provinces in 1951, and statistical information on marketing, merchandising, retailing, wholesaling, financial structure, service co-operatives, fishermen's co-operatives and insurance.

A Farm Business Study in the Hamiota Area of Manitoba. *Riecken, T. O.* Economics Div. in co-operation with the Dept. of Political Economy of the Univ. of Manitoba. Ottawa, September 1952.

This report is divided into three main sections: *General Characteristics of the Area, Farm Organization,* and *Measuring the Efficiency of Farm Operation.* The Study itself is part of a broader inquiry into the economic aspects of farm organization and management in representative type-of-farming areas of Manitoba.

OTHER PUBLICATIONS

Cost and Return in Growing Cucumbers in Annapolis Valley, 1951. *Elliott, S. P. and W. A. Jenkins.* Pub. 1024, Dept. of Agriculture and Marketing. Halifax, N.S., 1952.

Following a brief discussion on climate and temperature and a few explanatory notes on the method used in collecting data, this report presents an analysis of cultural practices, harvesting operations, yields, and price and grade. This analysis leads to the main part of the report, which deals specifically with the various cost factors and the relationships between labour, yields, number of pickings and size of plot to returns.

Poultry Production and Marketing in Saskatchewan. *Heidt, A. A. and M. A. Nelson.* Processed bul. Research and Statistical Services, Dept. of Co-operation and Co-operative Development, Province of Saskatchewan, in co-operation with Economics Div., Regina, Sask., 1952.

A report containing a description of the poultry industry in Saskatchewan, an analysis of production and marketing practices, and information on price spreads, grading, transportation, and storage and exports of poultry products.

Agriculture and Economic Progress. *Ojala, E. M.* Foreword by A. W. Ashby. Oxford University Press. 1952. pp. vi+220.

The result of the author's research work during a period of two years as an advanced student at the University of Oxford, England, this book represents an attempt to appraise the contributions of agriculture to general economic progress. Mr. Ojala draws his illustrations from three countries with varying agricultural patterns, which have passed through a long series of evolutionary stages, namely: the United States, the United Kingdom and Sweden.

A brief discussion of the conditions of economic progress and an explanation of the concepts of economic welfare are followed by an analysis of agriculture's contribution to economic welfare in the three countries under study. The author then devotes a chapter to each of the following topics: industrial pattern of economic progress, consumption patterns and economic progress, agricultural population and incomes, prices levels and agricultural production, commodity prices and production, and agricultural policy and progress.

Cost and Returns in Growing Tomatoes, Annapolis Valley, 1951. *Elliott, S. P. and W. A. Jenkins.* Processed bul. Nova Scotia Dept. of Agriculture and Marketing. Halifax, N.S., 1952.

A report dealing mostly with cultural practices and the cost of producing tomatoes on 23 farms in the Annapolis Valley of Nova Scotia in 1951.

"Planning Makes the Difference". *Jenkins, W. A. and Alex. J. MacDonald.* Processed bul. Nova Scotia Dept. of Agriculture and Marketing. Halifax, N.S., 1952.

The fourth in a series of reports published by the Farm Management Division of the Nova Scotia Department of Agriculture and Marketing. The first report, *"Organization Makes the Difference"*, dealt with profits in relation to the internal organization of a farm, and the second and third reports, *"Size Makes the Difference"* and *"Size Scores Again"* stressed the importance of size of business. In the present report, emphasis is placed on farm planning. Data relating to farm business organization were obtained from farm business summaries for 129 farms included in the *Farm Improvement Policy* of the Department.

THE ECONOMIC ANNALIST

A BIMONTHLY REVIEW OF AGRICULTURAL BUSINESS

G. P. BOUCHER, Editor

DECEMBER 1952 Vol. XXII, No. 6

CONTENTS

Page

The Economic Situation 123

Utilization and Prices of Soybeans in Canada . . *W. L. Porteous* 125

Soybean Production in Ontario .... *D. J. Packman* 131

Farm Appraisal: A Few Methods and Suggestions . . . *P. G. Muller* 137

Farming in the Rainy River and Dryden Districts of Northwestern Ontario .... *H. W. Trevor* 140

MARKETING SERVICE, ECONOMICS DIVISION

J. F. BOOTH, Chief

Published by Authority of the Right Honourable James G. Gardiner, Minister of Agriculture

ANNUAL AND MONTHLY INDEX NUMBERS

Wholesale Prices, Farm Prices and Living Cost Indexes

Year	Wholesale Prices 1935-39=100				Farm Prices of Agricultural Products 1935–39=100 (e)	Commodities and Services used by Farmers 1935-39=100		Cost of Living 1935-39=100	
	(a) General Wholesale Index	(b) Farm Products	(c) Field Products	(d) Animal Products		(f) Equipment & Materials	(g) Eleven Factor Index	(h) Farm Living Costs	(i) Urban Living Costs
1913	83·4	....	....	....	....	85·4	....	80·1	79·1
1914	85·4	....	....	....	....	90·2	85·3	82·3	79·7
1915	91·8	....	....	....	....	96·9	91·6	86·5	80·7
1916	109·8	....	....	....	....	101·7	100·5	93·7	87·0
1917	148·9	....	....	....	....	140·7	140·5	111·5	102·4
1918	166·0	....	....	....	....	164·1	160·2	131·1	115·6
1919	174·7	....	....	....	....	169·1	167·9	143·0	126·5
1920	203·2	....	....	....	....	190·1	186·5	171·3	145·4
1921	143·4	....	....	....	....	147·4	152·5	139·9	129·9
1922	126·8	....	....	....	....	124·6	134·1	127·9	120·4
1923	127·7	....	....	....	....	118·3	130·6	128·3	120·7
1924	129·5	....	....	....	....	122·3	131·9	125·5	118·8
1925	133·8	....	....	....	....	123·2	131·8	123·9	119·8
1926	130·3	144·4	158·5	130·2	....	119·9	130·6	121·1	121·8
1927	127·3	138·6	149·4	127·8	....	119·9	131·2	119·8	119·9
1928	125·6	136·3	134·3	138·2	....	118·3	129·3	118·5	120·5
1929	124·6	140·8	137·2	144·4	....	117·6	127·9	117·3	121·7
1930	112·9	119·5	105·8	133·3	....	105·6	117·0	113·7	120·8
1931	94·0	78·9	65·0	92·7	....	92·2	100·9	103·9	109·1
1932	86·9	65·5	60·4	70·5	....	89·3	93·3	97·8	99·0
1933	87·4	69·3	69·3	69·2	....	88·8	89·8	95·8	94·4
1934	93·4	83·5	80·5	86·5	....	96·8	95·5	97·9	95·6
1935	94·4	89·2	84·4	94·1	88·0	95·6	95·4	97·9	96·2
1936	96·7	97·9	102·2	93·7	96·9	98·7	98·1	98·3	98·1
1937	107·8	117·4	128·9	106·0	119·7	108·4	105·3	102·9	101·2
1938	102·0	102·9	100·9	104·8	105·0	101·2	101·7	101·9	102·2
1939	99·2	92·6	83·7	101·5	91·8	95·7	99·3	99·5	101·5
1940	108·0	96·1	85·4	106·7	96·8	101·8	106·8	108·5	105·6
1941	116·4	106·6	88·9	124·4	110·2	107·8	116·1	114·1	111·7
1942	123·0	127·1	109·7	144·6	133·1	119·2	131·6	119·0	117·0
1943	127·9	145·4	129·0	161·8	157·8	122·4	143·4	121·7	118·4
1944	130·6	155·3	144·5	166·1	172·4	126·0	148·0	122·8	118·9
1945	132·1	166·4	162·5	170·2	185·7	125·9	152·1	123·2	119·5
1946	138·9	179·5	177·9	181·2	204·1	128·0	157·0	127·1	123·6
1947	163·3	192·2	184·1	200·2	215·8	139·5	170·4	138·3	135·5
1948	193·4	232·1	200·6	263·7	255·8	173·1	197·4	162·8	155·0
1949	198·3	228·7	191·9	265·4	255·4	180·3	204·1	173·2	160·8
1950	211·2	236·7	191·9	281·4	260·8	189·9	210·4	177·6	166·5
1951	240·2	265·1	193·4	336·9	292·6	206·0	230·0	198·6	184·5
1952									
Jan.	236·8	263·1	208·0	318·2	284·9	218·1	236·6	215·8	191·5
Feb.	232.6	251·2	205·1	297·3	273.4	....	....	....	190.8
Mar.	230·8	248·3	213·3	283·3	268·1	....	....	....	189·1
April	226·9	245·4	217·1	273·7	265·0	216·9	243·2	209·6	188·7
May	224·8	244·3	223·2	265·4	257·5	....	....	....	186·7
June	226·5	249·5	227·6	271·4	264·8	....	....	....	187·3
July	225·5	244·3	213·3	275·3	264·0	....	....	....	188·0
Aug.	223·9	236·2	195·3	277·2	259·7	212·5	243·4	204·1	187·6
Sept.	222·1	225·5	181·9	269·1	250·5	....	....	....	186·5
Oct.	....	....	....	....	....	....	....	....	185·0
Nov.	....	....	....	....	....	....	....	....	184·8

(a) Canada. Dominion Bureau of Statistics, Prices Branch. *Prices and Price Indexes.* (Mimeo.) Ottawa, Monthly.
(b) Ibid (a). Wholesale prices of products of Canadian farms.
(c) Ibid (a). Wholesale prices of grains, hay, tobacco and potatoes.
(d) Ibid (a). Wholesale prices of animals and animal products.

(e) Canada. Dominion Bureau of Statistics, Agricultural Division. *Index Numbers of Farm Prices of Agricultural Products.* (Mimeo.) Ottawa, Monthly.

(f) Canada. Dominion Bureau of Statistics, Prices Branch. *Price Index Numbers of Commodities and Services Used by Farmers.* (Mimeo.) Ottawa, Jan., Apr. and Aug. Includes prices of commodities in 8 groups including farm implements, building materials, gasoline, oil and grease, feed, fertilizer, binder twine, seed and hardware.

(g) Ibid (f). Includes the 8 commodities indicated above plus tax rates, interest rates and farm wage rates.

(h) *Price Index Numbers of Commodities and Services Used by Farmers.* Includes food, clothing, fuel, household equipment, health, maintenance and miscellaneous.

(i) *Prices and Price Indexes.* Includes food, rent, fuel and lighting, clothing, home furnishings and services, miscellaneous and retail prices of commodities.

THE ECONOMIC SITUATION, 1952

Year-End Review.[1]—The Canadian economy continued to expand in 1952, but this expansion was marked by different trends among the various industries. Figures for the first seven months of the year indicate a decrease of only two per cent since 1951 in the volume of industrial production and of six per cent in mining production. Manufacturing has declined by about three per cent; the decline was of the same magnitude in the durable as in the non-durable goods sector. Increases in the production of foods, chemicals and beverages were not sufficient to offset the declines in primary textiles and clothing. Declines in the production of automobiles and electrical goods resulted in a generally lower volume of production in the durable goods sector in spite of moderate increases in primary iron and steel and farm implements and more pronounced increases in defence equipment.

Investment.—According to the mid-year survey of investment in Canada the total expenditures for durable physical assets will exceed the 1951 total by 13 per cent. Prices of capital goods may average about five per cent higher and the greater portion of the rise will represent an increase in physical volume.

Exports.—Canadian exports reached a postwar peak in 1952. Domestic exports for the first nine months of the year totalled $3,140·3 million, 13 per cent more than in the first nine months of 1951. A significant feature of Canada's trade in 1952 was the 35 per cent increase in exports to markets other than the United States. Exports to the latter country ran at about the same level as in 1951.

The United States embargo on Canadian livestock has resulted in a marked drop in livestock exports.

Imports.—On a value basis, Canada's imports during the first nine months of 1952 were six per cent below the total for the corresponding period of 1951. Because of the appreciation of the Canadian dollar and of a substantial decline in world commodity prices, import prices averaged more than ten per cent lower than in 1951.

Consumer Expenditures.—The first four months of 1952 were marked by a continuation of the relatively low level of consumer purchasing which had prevailed in the latter part of 1951. During the first quarter of the year durable goods expenditures were 23 per cent less than for the first quarter of 1951. This marked weakness tended to offset the better sustained level of demand for perishable goods and services.

The elimination of the special excise tax and the suspension of consumer credit regulations in the April budget were followed, in subsequent months, by a sharp increase in purchases of durable goods and a less pronounced upward trend in purchases of perishable and semi-perishable goods.

Fiscal and Monetary Policies.—The 1952-53 budget provided for an approximate balance between revenue and expenditure and certain limited reductions in tax rates, particularly in the field of commodity rates.

On January 1, the government began to pay old-age security pensions to persons 70 years of age and over. This pension program is financed in the main by special old age security taxes.

Consumer instalment regulations were first relaxed in January and then suspended in May.

Farm Prices of Agricultural Products.—With the exception of January the index of farm prices of agricultural products was substantially lower during the first eight months of 1952 than during the corresponding period of 1951. Figures on initial and interim payments on western wheat and barley and initial prices for western oats were the same for the two periods but final participation payments were included in the 1951 figures up to the end of July. The decline in cattle prices started at the very beginning of the year and was accentuated after the outbreak of foot-and-mouth disease in Saskatchewan and the imposition of the United States embargo on Canadian cattle in February. Hog, lamb and egg prices, too, were significantly lower than in 1951. Spring potato prices reached a level about five times higher than in 1951.

Prices of Commodities and Services Used by Farmers.—Prices paid by farmers for commodities and services used for production and for living continued to rise during 1952. The composite price index number of goods, services and cost of living was nearly five per cent above that for 1951 with the greatest increase occurring in farm wages, followed closely by family living costs, equipment and materials. Compared with the 1935-39 base period the composite index number, including living costs, has increased nearly two and a half times. Farm wage rates are nearly four and a half times those in the base period and the tax and interest group about 50 per cent higher. The equipment and materials index numbers are more than double those of the 1935-39 base period.

---

[1] Based on a review of the domestic situation prepared by the Domestic Situation Committee of the 1952 Federal-Provincial Agricultural Conference.

Farm Price Support Activities.—Surpluses of a number of agricultural products, particularly hogs, were anticipated at the beginning of 1952 but no serious difficulties were expected. However, the outbreak of foot-and-mouth disease and the subsequent placing of a United States embargo on Canadian livestock and livestock products have resulted in more numerous and more extensive operations by the Agricultural Prices Support Board than in any other year since the Board was created in 1944. The Board's activities in 1952 were aimed at stabilizing the prices of hogs, cattle, butter and eggs. Substantial costs were incurred by the government with respect to the stabilization programs for cattle and hogs.

Farm Production.—Preliminary estimates indicate a new high record of agricultural production in Canada in 1952. The increase is expected to be about 20 per cent above the 1951 level and nearly 15 per cent above the previous high record of 1942. The gain in production is largely attributable to the large grain crops in Western Canada.

Income.—Labour and business income increased in 1952. The corporate profit position, on the other hand, reflected the fairly general upward pressure on costs and market softness in some industries. In the aggregate, personal incomes will be higher in 1952. In November, it was estimated that even after deduction of direct taxes, personal disposable income was likely to be six or seven per cent above that of 1951.

Farm cash income from the sale of farm products and from participation payments, including those on crops from previous years, may reach an all-time high but it is estimated that a lower income in kind, reduced values of year-end inventory changes and higher operating costs will result in a net farm income about five per cent below that of 1951.

Substantially greater returns from field crops will account for much of the gain in cash returns. Cattle prices, on the other hand, suffered a severe setback after the imposition of the United States embargo on Canadian cattle. Marketings were also reduced in response to an appeal for the delivery only of well-finished cattle. As a result, there was a sharp decline in income from sales of cattle.

Prices of hogs well below the high levels of 1951 will more than offset a significant increase in marketings. A slight increase in dairy production is likely to result in a greater income from this source. An expected slight increase in total sales of eggs will be offset by a marked drop in the average price of eggs in 1952.

Farm operating expenses and depreciation charges continued to increase in 1952. Share-rent payments were substantially higher as a result of the bumper western grain crops. Heavy shipments under the Freight Assistance Policy are likely to result in a much higher feed bill than in 1951. The increase in wage rates was partly offset by a reduction in the labour force.

Current Economic Developments.—Employment, payrolls and average weekly wages and salaries in the principal industries of Canada reached record levels at the beginning of September. The advance index of employment rose to 190·1 from 188·1 at the beginning of August and 185·4 at September 1, 1951, and the payrolls index to 441·6 from 433·3 a month earlier and 400·2 a year previously. Average weekly wages and salaries increased to $54.54 from $53.89 a month earlier and $50.66 a year earlier.

Canada's domestic exports to all countries totalled $335,900,000 in September 1952 as compared with $320,100,000 in September 1951. The cumulative totals for the first nine months of the year were $2,784,600,000 in 1951 and $3,140,300,000 in 1952, an increase of 13 per cent.

Exports to the United States increased from $186,730,000 in September 1951 to $192,729,000 in September 1952 but the cumulative value for the first nine months of the year declined from $1,691,341,000 in 1951 to $1,669,629,000 in 1952.

Exports to the United Kingdom dropped in value from $52,514,000 in September 1951 to $42,171,000 in September 1952. The cumulative total for the first nine months of the year increased from $446,369,000 in 1951 to $576,289,000 in 1952.

UTILIZATION AND PRICES OF SOYBEANS IN CANADA

W. L. PORTEOUS

Most of the soybeans harvested in Canada are sold to commercial crushing plants where the oil is extracted and sold to manufacturers to be used for making edible products such as shortening or margarine or industrial products such as paints. The residue, soybean oilcake and meal, is a high protein feed which is widely used for balancing animal rations, especially poultry and hog rations. Approximately 9·8 pounds of oil and 47·8 pounds of meal are the major products produced from a bushel (60 pounds) of soybeans.

Domestic Crushings of Soybeans.—Prior to World War II only small quantities of soybeans were crushed in Canada. However, with the stimulus provided by a world shortage of fats and oils and high prices, considerable interest was developed in soybeans with a corresponding increase in production and crushings. Between 1948 and 1949 crushings increased from approximately 2·5 to 4·5 million bushels and by 1951 they had reached 7·5 million bushels. From the 1951 crushings 37 thousand tons of oil and 178 thousand tons of meal were obtained (Table 1).

Domestic Crushings in Relation to Production.—Although soybean acreage and production in Canada have expanded rapidly, home-produced soybeans have accounted for more than half of the total crush only in 1949. Canadian supplies made up 29·1 per cent of the total crush in 1950 and 37·7 per cent in 1951 (Table 2). In addition to soybeans, Canada also imports substantial quantities of soybean oil (Table 4).

However, it is probable that Canadian production will supply a larger proportion of the crush in the future. The trend in soybean acreage and production has been distinctly upward; in Ontario the area of commercial soybean production continues to expand. On the other hand, with normal price relationships existing among edible oils, the consumption of soybean oil in Canada will not likely expand as rapidly as was the case after the introduction of margarine in 1949. Continued population increases, high consumer incomes or a shift from animal to vegetable oils and fats will all be factors contributing to an increase in the size of the soybean oil market. But the percentage increase in utilization because of these factors will likely be less spectacular than the increase which has already taken place.

Foreign Trade in Soybeans and Soybean Products.—Imports of soybeans have increased steadily. In 1951, 4·7 million bushels were imported as compared with only 1·1 million in 1946 (Table 2). All imports come from the United States. No exports of Canadian soybeans have been recorded.

Imports of soybean oilcake and meal into Canada vary considerably from year to year. For example, 45·9 thousand tons were imported in 1947, only 2·4 thousand the following year and 32·9 thousand in 1951. Imports, however,

Table 1.—Soybean Crushings and Production of Soybean Oil, Cake and Meal, 1946 to 1951

Year	Soybeans Crushed	Oil Production	Oilcake and Meal Production
	000 bushels	—tons—	
1946	1,846	9,101	42,712
1947	2,702	13,526	62,975
1948	2,537	13,432	58,383
1949	4,508	22,982	105,314
1950	5,648	28,466	134,532
1951	7,483	36,757	177,982

Compiled from data contained in the *Coarse Grains Quarterly*. Canada, Dominion Bureau of Statistics. May 1952.

Table 2.—Canadian Supplies of Soybeans in Relation to Total Crushed, 1946 to 1951

Year	Soybeans Crushed	Soybeans Imported	Canadian Supplies[a]	Canadian Supplies as per cent of Total Crushed
	—000 bushels—			per cent
1946	1,846	1,136	710	38·5
1947	2,702	1,457	1,245	46·1
1948	2,537	1,445	1,092	43·0
1949	4,508	2,142	2,366	58·3
1950	5,648	4,004	1,644	29·1
1951	7,483	4,659	2,824	37·7

[a] Residual figure: Imports subtracted from total crushings.

Source: Canada, Dominion Bureau of Statistics, *Trade of Canada*, December issues, and *Coarse Grains Quarterly*, May 1952.

have been more than offset by exports during 1950 and 1951. This indicates that under present methods of feeding, when the amount of soybean oilcake and meal produced in Canada is added to other high protein feeds, the total production nearly balances the amount fed (Table 3).

During 1951 soybean oilcake and meal were exported to nine countries, 59 per cent of the total going to the United States, 26 per cent to the United Kingdom and 6·5 per cent to Belgium. The larger volume of trade between the United States and Canada is due mainly to lower transportation costs. Soybean oilcake and meal can often be imported into Western Canada more cheaply from mid-western United States mills than from Ontario because of the freight rate structure. Conversely, Ontario mills have found it possible to supply some of the needs of the eastern United States market, although a recent increase in the United States tariff may become detrimental to this trade.

Imports of soybean oil make up an important part of the total Canadian supply although year-to-year variations in the amounts imported are quite large. In 1950, 4·3 thousand tons were imported compared with 9·6 thousand in 1951 (Table 4). Translated into terms of raw material, the 1951 imports of oil equal the amount which would be obtained from approximately 2·0 million bushels of soybeans.

Imports of soybean oil are relatively large but the tendency is for a larger proportion of the oil to be produced in Canada from either domestic or imported soybeans. During 1946, imported soybean oil made up 66·8 per cent of the total domestic disappearance compared with only 15·1 per cent in 1950.

Tariffs on Soybeans and Soybean Products.—Soybeans and soybean oilcake and meal enter Canada free of duty. Soybean oil enters duty free if used for processing leather and fibres, manufacturing paint, varnishes and soaps or if

Table 3.—Production, Trade and Apparent Domestic Disappearance of Soybean Oilcake and Meal, 1946-51

Year	Production	Imports	Exports	Apparent Domestic Disappearance
		—tons—		
1946	42,712	1,392	....	44,104
1947	62,975	45,952	....	108,927
1948	58,383	2,367	80	60,670
1949	105,314	29,720	2,894	132,140
1950	134,532	17,480	26,212	125,800
1951	177,982	32,937	44,179	166,739

Source: Canada. Dominion Bureau of Statistics. *Coarse Grains Quarterly*. May 1952.

Table 4.—Production, Trade and Apparent Domestic Disappearance of Soybean Oil, 1946-51

Year	Production[a]	Imports[b]	Apparent Domestic Disappearance	Imports as Per Cent of Canadian Production
		—tons—		per cent
1946	9,101	6,076	15,177	66·8
1947	13,526	4,046	17,572	29·9
1948	13,432	2,949	16,381	22·0
1949	22,982	5,200	28,182	22·6
1950	28,466	4,301	32,767	15·1
1951	36,757	9,615	46,372	26·2

[a] Includes total oil produced from domestic and foreign soybeans crushed in Canada.
[b] Edible and inedible.
Source: Canada, Dominion Bureau of Statistics. *Trade of Canada*, Dec. issues, and *Coarse Grains Quarterly*, May 1952.

used for canning fish. If it is used for other purposes, the duty is 15 per cent ad valorem if entering under the British Preferential Tariff or 20 per cent when originating in other countries.

Soybeans and soybean products entering the United States from Canada are subject to a duty of $1.20 per bushel for soybeans, $6.00 per ton for oilcake and meal and 3·5 cents per pound or a minimum of 45 per cent ad valorem for soybean oil.

Comparison of the Market for Soybean Oil and Oilcake and Meal.—Although the Canadian tariff structure favours the importation of soybeans for domestic crushings, large quantities of soybean oil are still imported. This situation may be explained, in part, by the relative size of the oil and meal markets in Canada, and the United States tariff structure. If more soybeans were imported and crushed domestically to fill the soybean oil requirements, export markets would be required for the surplus meal. However, the present United States tariff of $6.00 per ton tends to limit shipments of excess meal into Canada's closest foreign market. The duty-free entry for specific purposes, such as paint manufacture, also tends to maintain some imports of soybean oil rather than soybeans.

Although the expansion of the market for soybean oil and meal has been tremendous, the amounts of soybeans required to fill all of the domestic oil requirements in 1951 exceeded the amounts required for oilcake and meal by a greater actual amount than in 1946. Domestic requirements for soybean oil exceeded requirements for soybean oilcake and meal by 1·3 million bushels of soybeans in 1946 and 2·5 million bushels in 1951. However, in terms of relative rates of growth, measured by percentage increases, the market for oilcake and meal has expanded the most rapidly. By 1951 the domestic disappearance of oilcake and meal had increased by 278·1 per cent over 1946

Table 5.—Rate of Expansion of Soybean Oil and Oilcake and Meal Markets, Canada 1946 and 1951

—	Unit	1946	1951	Percentage Increase
				percent
Domestic disappearance of soybean oil	tons	15,177	46,372	
Soybean equivalent for oil[a]	000 bus.	3,097	9,464	205·6
Domestic disappearance of soybean oilcake and meal	tons	44,104	166,739	
Soybean equivalent for oilcake and meal[a]	000 bus.	1,845	6,976	278·1
Extra soybean equivalents required for soybean oil	000 bus.	1,252	2,488	

[a] Extraction rate of 9·8 pounds of oil and 47·8 pounds of oilcake and meal from 60 pounds of soybeans.

compared with 205·6 per cent for soybean oil (Table 5). The trend towards the use of more high-protein vegetable supplements in livestock rations is likely to continue and should result in a better balance in the amounts of soybean oil and oilcake and meal required by the domestic market.

Domestic Uses for Soybean Oil.—Between 1920 and 1930 almost all of the soybean oil used in Canada (about 1·5 thousand tons per year) was used for making soaps and paints; about 90 per cent was used for soap and 10 per cent for paints. During the next decade the pattern of utilization began to shift and soybean oil was used more widely as an edible oil; about 35 per cent went to food uses and 65 per cent was used to make soaps and paints. This trend was accelerated during World War II. At present most of the oil is used by various food processing industries. Margarine and shortening accounted for 79·5 per cent of the total utilization in 1950 and 71·1 per cent in 1951 (Table 6).

Industrial use is mainly for paints and varnishes. During 1950, 1,719 tons or 5·2 per cent of the total utilization served in the manufacture of paints and varnishes. Although not a large amount, it represents more than the average yearly total disappearance in the 1920's. Further expansion of the market for soybean oil depends on a number of factors, including price competition. If this oil becomes cheap in relation to linseed oil or other substitute oils, more will be used for paints and varnishes. Competition from new products, such as synthetic rubber base paints for interior use where most of the soybean oil base paints are now used, will however, tend to restrict the use of soybean oil.

Table 6.—Soybean Oil used in Margarine and Shortening and Total Disappearance, 1950-51

Year	Margarine	Shortening	Margarine and Shortening[a]	Total Domestic Disappearance all Soybean Oil[b]	Edible uses as percent of total
	—tons—				percent
1950	9,094	16,943	26,037	32,767	79·5
1951	17,599	15,368	32,967	46,372	71·1

[a] Refined basis.
[b] Crude basis.
Source: Canada, Dominion Bureau of Statistics, *Oils and Fats.* Dec. 1951.

Soybean oil, although an important industrial oil, is usually classified as an edible oil. It has a light amber colour which is reduced to a light yellow by alkali refining. If produced from immature soybeans the oil may have a greenish cast which can be reduced by further processing, but oil from badly damaged beans may have a dark brown colour which is difficult or impossible to remove. Soybean oil has a typical "beany" odour and flavour which can be removed but which has a tendency to return.

Domestic Uses of Soybean Oilcake and Meal.—Soybean oilmeal is an excellent source of vegetable protein for all classes of livestock. The largest single outlet is for use in poultry rations for which the estimated absorption is approximately 50 per cent of the total output. Use in hog rations provides the next largest outlet with somewhat smaller amounts being fed to cattle. The use of Vitamin B-12 and antibiotics in conjunction with soybean oilmeal may replace some animal proteins such as fish and meat meal in poultry and hog rations.

The usual minimum percentage of protein in soybean oilcake and meal is either 41 or 44 per cent depending on the method of extraction. The older "expeller" type of processing resulted in a lower protein meal and higher fat content than that obtained from the newer "solvent" method of extraction.

Most of the soybeans in Canada are processed by the solvent method. A new product containing 50 per cent protein has just recently been placed on the Canadian market.

Total Domestic Disappearance of Soybean Oil and Oilcake and Meal.—Table 4 shows the extent of the expansion of the market for soybean oil for all uses in Canada. From only 15·2 thousand tons in 1946, disappearance has increased every year except 1948 to reach a high of 46·4 thousand tons during 1951. This is slightly more than a threefold increase in a six-year period. However, this rate of expansion is not likely to be maintained in the future.

The extent of the expansion of the market for soybean oilmeal is illustrated in Table 3. Domestic disappearance increased from 44·1 thousand to 166·7 thousand tons or a fourfold increase in the six-year period between 1946 and 1951. The expansion of the market for soybean oilmeal has not been as gradual and steady as that of the soybean oil market. Recent developments in the poultry industry, such as the large increase in broiler production, increase the demand for protein supplements. High protein rations are required to promote the rapid growth necessary for this type of production. An increase in the sales of commercially mixed feeds is another factor contributing to the increased use of protein concentrates.

Prices for Soybeans.—The average farm price for soybeans in the post-war years has varied between $1.90 and $3.06 per bushel. For the 1950-51 crop growers received an average farm price of $2.55 per bushel.

The price growers receive for soybeans depends upon the price received for the oilcake and meal, minus the processor's margin, handling and transportation charges. Normally the oil and oilcake and meal are regarded as contributing about equally to the final value of a bushel of soybeans. However, this relationship can be distorted. With regard to the sale of the 1951-52 crop a strong market for the meal and a slow market for the oil made the meal the most valuable part of a bushel of soybeans. A shift in relative values may easily take place, the two products being sold in essentially different markets.

Prices for Soybean Oil.—Soybean oil is sold on the domestic market in competition with other edible and industrial fats and oils. Most fats and oils are chemically stable, can be stored, are valuable in relation to bulk and can be transported long distances. Soybean oil, therefore, must compete with fats and oils from many domestic and foreign sources. Another feature which adds to the competitive nature of the market resides in the methods of refining and processing many of the oils and fats. These methods have advanced to the stage where one may be readily substituted for another according to price relationships. Because of these factors world supplies of fats and oils and world conditions are more important in determining the price on the domestic market than domestic production and requirements.

Supplies of four of the world's major edible fats and oils—soybean oil, cottonseed oil, lard and butterfat—a large proportion of which are produced in the United States, have a significant effect on the prices paid for soybean oil. Soybean oil prices are also affected by price level fluctuations and other variations in economic activity. Threats of war usually result in a propensity to hoard oils and fats.

Soybean Oilmeal Prices.—The price paid for soybean oilmeal depends on the feed position in relation to livestock prices and numbers. The prices for which livestock can be sold exert an influence on the price which feeders are willing to pay for feeds. The total amount of protein supplements and feed grain supplies available per grain-consuming animal unit affects the prices paid for soybean meal.

The prices established on the United States markets play an important part in determining Canadian prices for meal. If Canadian prices exceed United States prices by more than transportation and handling charges, imports increase. However, the Canadian soybean oilmeal price must be sufficiently below the United States price to cover the costs of transportation, handling and duty before it can be sold in that market.

Processors' Margins and Transportation Charges.—When processing, handling and transportation costs are lowered, one of the effects is to raise the return to the growers. Because of the relatively short history of soybean processing in Canada, information on margins over a period of years is not available. In the United States, however, margins for processing, handling and transporting a bushel of soybeans have varied from $0.24 to $1.73 per bushel with an average of approximately $0.60 per bushel.[1]

In Canada rail transportation charges on soybeans from Chatham to Toronto have doubled between 1948 and 1952 (Table 7). At this rate of increase, transportation charges have become an increasingly large fixed cost relative to the value of a bushel of soybeans. Chatham is a central point in the producing area and most of the processing is done in Toronto.

Seasonal Pattern of Soybean Prices.—Most of the Canadian soybeans are marketed during the fall and winter months and because of this it is difficult to derive a seasonal price pattern for a complete year. However, in the United States a distinct seasonal price pattern has been evident. Prices for soybeans have been lowest in the fall months when handling facilities were taxed and processors were probably unwilling to assume the risk of carrying a large supply in unhedged inventory positions without discounting the price. Over a period of years prices paid for soybeans rose to a peak in April and remained fairly stable until July when new crop conditions exerted their influence on the market. The extent of the price increase was generally more than enough to cover storage charges. During the 1951-52 crop year, when farmers in the United States withheld a larger proportion of the crop for sale later in the season, the drop in price in the fall months was much reduced.

Table 7.—Soybean Freight Rates, Chatham to Toronto, 1943-52

Effective	Year	Rate
		cents per 100 lbs.
August 15	1943	18
April 8	1948	22
July 2	1949	26
April 3	1950	31
July 26	1951	35
February 11	1952	36

Source: *Canadian Pacific Railway Tariff* No. E-430-C, C.T.C. No. E-5010.

"The Ontario Soya-Bean Growers' Marketing Scheme".—This organization, established in 1949 under the "Farm Products Marketing Act" of Ontario, negotiates an agreement annually or as often as necessary with the processors and dealers regarding the conditions of sale of Ontario soybeans. Under the 1951 agreement no fixed or contract price for soybeans was established.

In drawing up the agreement, six representatives of the producers meet with three processors and three dealers' representatives. The agreement reached by these groups is submitted to and must be approved by the Farm Products Marketing Board. No buyer may do business on terms below those set out in the agreement.

Under the 1951 agreement the minimum price was the trading price for each day as established on an open market basis. However, the processors undertook to pay the best possible prices consistent with the prevailing market prices obtainable for the end products of processing. In addition processors were to inform the Marketing Board as to the causes of major price fluctuations and co-operate in providing information relative to prices based on the previous day's trading price.

---

[1] Jordan, G. L. *What Determines Soybean Prices.* Univ. of Illinois, Bulletin 546. Urbana, Illinois, 1951.

The agreement specified the discounts to be imposed on soybeans containing over 14 per cent moisture. Soybeans containing over 14 per cent and up to 18 per cent (inclusive) moisture were to be discounted with the maximum rate being $1\frac{1}{2}$ cents per bushel for each $\frac{1}{2}$ per cent moisture content; soybeans containing over 18 per cent moisture were to be discounted with the maximum rate being five cents per bushel for each $\frac{1}{2}$ per cent of moisture content.

The maximum charge to any grower by every dealer for cleaning, handling and selling soybeans was fixed at ten cents per bushel under the 1951 agreement. The maximum storage charge to any grower was $\frac{1}{30}$ of one cent per bushel per day.

The agreement stipulates that dealers are to pay cash on demand for soybeans and procure specific information about the conditions of sale such as the date of sale, condition of the soybeans, weights and prices paid. The name of the purchaser, the name and address of the grower, date of purchase and the number of bushels sold is to be forwarded to the Secretary of the local Board by the 15th of the following month. The agreement also stipulates that matters of dispute between the growers and a dealer as to grade and moisture content are to be referred to an Inspector of the Board of Grain Commissioners at Chatham, Ontario, and his decision is to be final.

SOYBEAN PRODUCTION IN ONTARIO

D. J. Packman

The acreage sown to soybeans in Canada has increased from about 44 thousand acres in 1942 to 155 thousand acres in 1951. The largest part of the crop is produced in Ontario. Most of the counties in the southern part of the province produce soybeans but more than three-quarters of the total acreage is located in the counties of Essex and Kent, and almost all of the crop is grown in the grain corn producing areas of southwestern Ontario (Table 1).

Because the commercial production of soybeans is limited to a rather small area, their introduction as a field crop may appear insignificant when considered from the viewpoint of the Canadian farm economy. When studied

Table 1.—Principal Soybean Producing Areas, Ontario, 1951

County	Acres in Soybeans	Per Cent of Total Acreage
Essex	62,785	40·5
Kent	60,320	38·9
Elgin	11,133	7·2
Lambton	10,339	6·7
Middlesex	5,017	3·2
Norfolk	1,233	0·8
Huron	715	0·5
Haldimand	515	0·3
Perth	454	0·3
Oxford	431	0·3
Other	2,031	1·3
Province of Ontario	**154,973**	**100·0**

Source: *Census of Canada*, 1951.

Table 2.—Changes in Acreages in Various Crops in the Main Soybean Producing Areas of Ontario, 1941 to 1951

Crop	Changes in Acreage		
	Counties		All Four Counties
	Essex and Kent	Elgin and Lambton	
	—000 acres—		
Soybeans	123·1	21·5	144·6
Wheat	25·1	28·3	53·5
Oats	−42·4	−16·4	−58·6
Cultivated hay	−21·0	−35·6	−56·6
Mixed grains	−11·0	−25·5	−36·5
Barley	−16·3	− 6·4	−22·7
Grain corn	−40·6	28·1	−12·5
Other	−36·0	− 0·4	−36·4

Source: *Census of Canada*, 1941 and 1951.

in relation to the agricultural economy of the areas of commercial production, however, the introduction of this field crop becomes quite significant. In Essex County, for example, the farm value of soybeans constitutes 17 per cent of the total gross value of field crops, and is exceeded only by corn and potatoes. In Kent County, soybeans rank third after corn and winter wheat and provide approximately 14 per cent of the total gross value of field crops.

Since 1941, some processors of vegetable oils have shown a great deal of interest in the production of soybeans and along with governmental agencies have encouraged the increase in acreage and the improvement in cultural practices. Processors have increased their crushing capacities in line with this expansion.

Changes in Land Use.—Numerous changes have occurred in the agriculture of the main soybean producing counties of Ontario during the last decade. These changes represent adjustments that farmers have made to meet changing economic conditions. The agricultural census reported about 25 thousand fewer acres of land in crops in 1951 than in 1941 in the counties of Essex, Kent, Elgin and Lambton.

Soybeans have been introduced into the cropping program on Essex and Kent county farms largely at the expense of oats, grain corn, and cultivated hay (Table 2). A portion of the grain corn acreage which was displaced in Essex and Kent counties has spread to the adjacent counties of Elgin and Lambton. Wheat is the only other major grain crop in the area.

A favourable price situation and a considerable increase in soybean sales resulted from the reduction in supplies of fats and oils from Far Eastern countries during World War II, and the general increase in demand which accompanied the higher level of economic activity during and after the war.

Table 3.—Production, Price and Gross Returns per Acre, Selected Crops, Essex and Kent Counties, 1946-50 Average

Crop	Production per Acre[a]	Farm Value per Bushel[a]	Gross Returns per Acre
	bu.	—dollars—	
Grain corn	45·3	1·41	63·87
Soybeans	21·6	2·45	52·92
Fall wheat	29·1	1·69	49·18
Oats	41·6	0·73	30·37

Source: *Annual Reports*, Statistics Branch, Ontario Dept. of Agriculture.

An examination of the figures on gross returns obtained from the production of soybeans and the main grain crops competing with soybeans for the use of land in southwestern Ontario will illustrate one of the main reasons for the increased popularity of soybeans in that area (Table 3). These values are the product of average yields and average prices during the period from 1946 to 1950. For this period corn appears to be the most profitable crop, followed by soybeans, fall wheat and oats. However, since labour,[1] machinery and fertilizer requirements for corn are considerably greater than for soybeans, it is doubtful if the difference in net returns per acre of corn and of soybeans is as great as the difference in gross returns indicated in Table 3.

The introduction of better varieties was another factor contributing to the expansion of the soybean acreage. The greater part of the 1951 soybean production consisted of improved seed varieties such as Lincoln, Hawkeye, Blackhawk, Harman, Capitol and Harosoy, which either did not exist or were relatively unknown a few years before. Many of these improved varieties have a higher oil content than the older ones.

Mechanization also played an important role in the expansion of the soybean acreage. It meant a decrease in labour inputs, and increased returns per acre. The development of the small combine is worthy of special mention; under average conditions this combine reduces shattering and losses from as much as thirty to about nine per cent of the grain produced.

Corn and soybeans are inter-tilled crops which can utilize the same machinery, except for harvesting. Soybeans may thus be introduced into the cropping programs of southwestern Ontario with a minimum of farm re-organization. The fact that soybean varieties have been developed for production in most of the agricultural areas of Ontario—although production has been largely confined to areas where grain corn is produced—seems to indicate that the greatest advantage may be obtained on farms which are mechanized for row crops. The seasonal distribution in the use of labour also favours the combination of soybeans and corn in the cropping program. Soybeans may be seeded either before or after grain corn depending on the varieties desired, and harvested before corn.

The Soybean Enterprise.—In order to secure information on farmers' actual experience, records were obtained from 30 farms producing soybeans on the Brookston soil series of Essex and Kent Counties. These farms were selected at random. The Brookston clay soils in their natural state are poorly drained but when drainage is improved they become well-suited to the production of grasses, clover, grain corn, soybeans and other farm crops.

Farm Organization.—The average acreage of the farms studied was 169·4, the range being from 50 to 500 acres (Table 4).

Soybeans were the most important crop on the farms enumerated, occupying 60·2 acres or 35·6 per cent of the total farm land. Although the farms reported an average of 60·2 acres of soybeans per farm, one-third of the farms had 30 acres or less, one-third from 30 to 67 acres and the remainder from 67 to 200 acres. Only four farmers reported more than 100 acres in soybeans. Other crops, in order of importance, included wheat, grain corn, hay, and oats. The average yield was about 26 bushels of soybeans per acre for the 30 farms but average yields for individual farms ranged from 18 to 34 bushels per acre.

The farms enumerated harvested a considerably larger acreage of soybeans than the average for all the farms growing soybeans in Essex and Kent Counties. According to the 1951 Census, 43 per cent of the farms in the two counties reported soybeans during 1951, the average acreage reported being 27·2 acres.

---

[1] On the basis of a study conducted by the Economics Division during 1951, an average of 7·4 hours of man labour was required per acre of soybeans. Cost account data from New York State indicate that an average of about 15 hours of man labour is required per acre of grain corn.

Table 4.—Land Use: 30 Farms Producing Soybeans, Essex and Kent Counties, 1951-52 Crop Year

—	Average per Farm	
	Acres	Per cent of Total
Soybeans	60·2	35·6
Winter wheat	28·1	16·6
Corn, grain	22·2	13·1
Oats	12·6	7·4
Other grain	4·4	2·6
Corn, silage	0·7	0·4
Hay	18·9	11·1
Summerfallow	1·0	0·6
Vegetables	2·9	1·7
Total, crops	**151·0**	**89·1**
Rotation pasture	5·1	3·0
Permanent pasture, tillable	1·7	1·0
Permanent pasture, non-tillable	1·8	1·1
Woods	3·7	2·2
Waste	1·4	0·8
Yards, roads and fences	4·7	2·8
Total, all land	**169·4**	**100·0**

The livestock enterprise was of minor importance on the majority of the farms studied, an average of about five cows, one heifer and 90 poultry per farm being reported. Only four farms reported horses and one of these farms used horses only as a source of farm power. Twenty-three per cent of the total land on the farms enumerated was rented. Twenty-one of the farmers owned their entire farm unit, eight operators owned some land and rented other land, and one farm unit was operated on a cash rental basis. The typical farm visited utilized about 20 months of labour, which included the operator's labour and the equivalent of about eight months of hired help.

The production of soybeans increased at a very rapid rate on these farms. Only one farm reported soybeans in 1940 but as many as 23 had introduced soybeans into their cropping program since 1945. Eleven farmers stated that they intended to keep the same acreage in the future, six farmers planned to

Table 5.—Summary of Expenses, Receipts and Labour Returns per Farm and per Acre, 30 Soybean Enterprises, Essex and Kent Counties, 1951

—	Per Farm	Per Acre
	—dollars—	
Receipts	**4,310**	**72**
Expenses		
Seed	232	4
Seed treatment	5	[a]
Fertilizer	12	[a]
Land use: Taxes	171	3
Interest at 5%	344	6
Machinery use: [b]		
Tractor	276	5
Other costs	260	4
Total cost excluding labour	**1,300**	**22**
Labour return from soybeans	**3,010**	**50**

[a] Less than one dollar.

[b] Charges for machinery and tractor use are based on figures presented in *The Cost of Operating Farm Machinery in Eastern Canada*, by Wm. Kalbfleisch, Canada Dept. of Agriculture, Publication 750, March, 1950.

expand their soybean crop and thirteen planned to reduce the acreage. The soybean crop has been introduced on these farms largely at the expense of grain corn and oats but a few farms also reported a reduction in the acreage sown to hay.

The substitution of soybeans for other crops has meant a re-organization of the cropping programs but only 12 farmers have established regular rotations. Rotations vary greatly in length and in the kind of crops grown but soybeans are generally preceded by corn and followed by winter wheat. Soybeans were usually grown from two to three years on the same soil. Some farmers reported growing soybeans for as many as eight consecutive years on the same soil without a serious drop in yield. However, the practice of growing soybeans on the same land for more than three successive years is not recommended by agronomists. This practice depletes the soil of essential minerals and may also create conditions favourable to the outbreak of some plant diseases. Sixteen farmers reported that they had to deal with a disease problem during the 1950-51 crop year.

Labour Returns from Soybeans.—Information relating to receipts and expenses for the soybean enterprise was obtained for the 30 farms included in the study. The data presented in this section are not necessarily typical of all soybean farms, but they give a reliable indication of the profits realized from the production of soybeans in 1951 on the farms studied. Returns on any individual farm vary with fluctuations in yields and prices and depend on the cultural practices followed on a particular farm.

Table 6.—Labour and Tractor Requirements for Soybean Production, 30 Farms, Essex and Kent Counties, 1951

Operation	Requirements per Acre	
	Labour	Tractor
	—hours—	
Seedbed preparation	2·9	2·9
Seeding	0·7	0·7
Cultivating	2·2	1·4
Harvesting	1·6	1·1
Total	**7·4**	**6·1**

The existence of generally satisfactory weather conditions during the summer and fall of 1951 favoured good yields on most of the farms studied. Yields of 26·3 bushels per acre and higher soybean prices than in previous years gave a gross return of $72 per acre on the average farm (Table 5). The production of soybeans ranged from 140 to 5,600 bushels per farm and the average farm produced 1,582 bushels valued at $4,310.

With the prices prevailing between October 1951 and April 1952, the average farmer secured labour returns of $3,010 from his soybean enterprise, or labour returns of about $50 per acre of soybeans. The group of farms with the highest soybean production per acre, 31·8 bushels, obtained labour returns of $62 per acre as compared with $52 for the group producing 27 bushels per acre and $36 for the farms producing an average of only 21·4 bushels per acre. The largest single cost item was a $344 charge for interest on the investment in land valued at about $114 per acre. The charge for the use of machinery amounted to $536 on the average farm including $276 for the use of the tractor and $260 for other machinery.

Cultural Practices.—On the average, 7·4 hours of labour were required per acre of soybeans on the 30 farms studied (Table 6).

Ploughing and preparing the seedbed were the most time-consuming operations and required an average of 2·9 hours per acre whereas seeding required an average of only 0·7 hours, cultivating 2·2 hours per acre and harvesting 1·6 hours per acre of soybeans. Of the 2·2 hours of labour per acre spent in cultivating, about 0·8 hours were required for hand-hoeing. The typical farm used a three-plough row-crop tractor and this tractor did about 6·1 hours of work per acre. All of the soybeans on the farms studied were harvested with the combine and this operation required an average of 0·9 hours per acre of crops.

The successful production of soybeans is dependent, in part, on a well-prepared seedbed. In preparing the seedbed, most farmers follow the same practices as for corn. The land was usually spring-ploughed, although a few farmers disked the land on which soybeans had been grown in the previous year. After disking, the land was usually harrowed once or twice before planting.

The most common method of seeding soybeans was with the grain drill, but 13 farms used a corn planter or a modified sugar beet drill. About 20 per cent of the farmers seeded soybeans solid (drilled from six to eight inches apart) and 80 per cent seeded in rows 22 to 32 inches apart. Several farmers used their grain drill for row seeding by covering up the feed cups not required. The date of seeding varied with different varieties but the major part of the crop was seeded between the 1st and the 15th of May. An average of 1·5 bushels of seed was used per acre and the depth of seeding varied between 1·5 and 3 inches.

One of the most effective methods of cultivation is a thorough preparation of the seedbed and the destruction of weeds previous to seeding. It was a common practice on the farms studied to cultivate with a rotary hoe, finger weeder or drag harrow as soon as the seedlings appeared and two or three times during the first few weeks of growth. The row-planted soybeans were generally cultivated two or three times with a row cultivator after the soybeans were about eight inches high. The soybean crop on each of the farms studied was classified on the basis of freedom from weeds. The soybeans classified as "very weedy" produced an average of 20 bushels per acre as compared with about 29 bushels per acre for those fields classified as "moderately free" from weeds.

Soil requirements for soybeans are similar to those for corn. Both crops can be grown on widely different soil types, although both give the highest yields on fertile silt or sandy loams. Variations in yields between "good" and "poor" soils usually are much less for soybeans than for corn. Soybeans are vigorous foragers and so can frequently be grown successfully on soils that are not fertile enough for other cash crops and will withstand more strongly acid soil conditions than will red clover and alfalfa. They withstand periods of drought better than do most other crops.

Sales of Soybeans.—As of October 30, 1951, only three of the farms enumerated had sold their entire soybean crop and four had made no sales, although 62 per cent of the total crop on all farms was sold at this time. The majority of the farms visited had sufficient storage space to hold their entire crop. Six farmers expressed the intention of increasing their storage capacity in order to hold their soybeans over until winter or early spring in anticipation of seasonally higher prices.

The average price received was $2.75 per bushel up to and including March 30, 1950. However, four farms sold the major part of their crop on contract at a price of $2.40 per bushel and a few sales were made at prices as high as $2.95 per bushel. Three farmers made agreements with the crushers of soybeans to store their beans in terminal elevators free of charge and to be paid the prevailing price on any day stipulated by the individual farmer. The majority of the soybeans were sold directly to local elevators, who in turn sold them to crushing plants.

Outlook.—On the basis of conditions which prevailed in recent years, it would appear that market outlets in Canada could absorb the production of a much larger acreage of soybeans than the acreage now in this crop. During 1951, Canada was a net importer of 4·7 million bushels of soybeans plus the equivalent of 1·8 million bushels imported as soybean oil, or a total of 6·5 million bushels of soybeans. Assuming an average yield of 25 bushels per acre, about 260,000 additional acres in soybeans would have been needed to meet domestic requirements for the year, making a total of about 416,000 acres.

Future trends in the relative prices and changes in production efficiency of the various field crops will largely determine the extent of future expansion, but under present high levels of industrial activity it seems that the expansion in soybean production in Ontario is likely to continue.

FARM APPRAISAL: A FEW METHODS AND SUGGESTIONS

P. G. Muller

Farm appraisers are constantly searching for new or improved methods of appraising farm property. Up to the 1920's, sale or market value was regarded as the most reliable criterion of actual value. During the following decade, however, a sharp decline in the market value of farms purchased at higher prices during years of prosperity caused dissatisfaction with this method of evaluation. The wave of farm mortgage foreclosures and other financial difficulties made it clear that many farms had been over-valued at the time of purchase. It also became evident that in the future greater recognition would have to be given to the long term income-producing ability of the land as a major factor determining farm values.

In areas with a high percentage of cash crops and tenant-operated farms, appraisal based on the capitalization of the landlord's net earnings became popular. In mixed farming areas where most of the farms are owner-operated, it became the practice to estimate the average value per acre for each of the various types of land on a farm and then add the value of improvements to the total value of the land.

The above-mentioned methods are satisfactory in some respects but do not appear to give sufficient consideration to the productivity of the land. A better understanding of the "productivity" approach in farm appraisal may be gained by a brief description of some of the methods used in various countries. All of the methods to be described aim at the same objective—the determination of the potential revenue-producing capacity of a farm, as expressed by the capitalization of net returns. In periods of inflation these methods usually yield values different from market values and adjustments are often made to bring them into closer conformity with market values, especially in cases of farm purchases or sales.

"Basic" or "Normal Value".—The "basic" or "normal value" approach is becoming very popular on the North American continent, especially in those areas where tenant-operated crop farms are concentrated. This value is based on the capitalization of the landlord's estimated net earnings. The farm itself is assumed to be operated under conditions typical of those prevailing in the area.

The first step in this method consists of a comparison of the soil characteristics with those indicated by official soil maps for the area. An average soil rating is used as a basis for the estimation of average long-term crop yields. These yields are multiplied by the long-term average prices in order to arrive at estimated total receipts.

The landlord's net earnings are then estimated on the basis of established rent rates or shares for each crop. Adjustments entailing additions to or deductions from these net earnings must be made in order to account for comparative advantages or disadvantages with regard to location, market and community facilities, home use, risks and other factors. The net returns are then capitalized at the mortgage rate prevailing for types of investments with a comparable degree of risk which are available to people in the community. This rate is often determined by a local or regional appraisal committee. This method, it is evident, would not be very satisfactory for dairy or livestock farms where crops do not constitute the major or the only enterprise and in districts where there are very few or no tenant-operated farms.

The appraisal of owner-operated and mixed types of farms calls for a different approach. Instead of the landlord's net rent, or share of crops, the operator's annual receipts and expenditures are estimated and the net returns capitalized. Unless accurate records have been kept, the estimation of receipts and, especially, expenditures may lead to errors and other serious difficulties.

Standard Valuation.—The standard valuation system, predominant in Germany, is based on the selection of standard farms operated under the most favourable natural and economic conditions.

These standard farms are given a rating based on soil, climatic and economic factors and related to the revenue obtained from the farms. Information on farm revenue is secured from detailed farm accounts and thus has the advantage of being very accurate. The standard farms themselves constitute the basis for assessment in various agricultural regions, the assessed farms being rated by comparison with these standard farms and falling into any of 19 different ratings.

The procedure includes the classification of all crop and meadow land, rating adjustments with regard to location and other natural and economic factors and comparisons of the final rating with that of the standard farm in the same rating class. This procedure leads to uniformity of approach on the part of the assessors, but does not seem to leave much room for personal interpretation or personal judgment in cases where the latter may be essential.

Valuation Based on Rent Comparisons.—The "rent comparison" method has been developed during the last ten or twelve years by the Land Tenure Division of the Department of Agriculture of the Netherlands. This method is based on the average rental for typical farms in regions with a fairly homogeneous type of agriculture. The estimated rent for the farm being appraised is compared with the regional average rent and then capitalized to obtain the estimated value of the farm property.

Representative farms are selected in each type of farming area. On each of these farms, account books are kept and analyzed by officials of the Department of Agriculture. Net income is calculated on the basis of information made available by these accounts and is used as a basis for the determination of the rental value. The average and "typical" rent for a group of representative farms is then calculated and serves as a norm for the appraisal of individual farms.

The main considerations in rent estimation are the inherent productivity of the land, the climate, temperature, precipitation, irrigation, drainage and other basic factors. Adjustments are made with regard to the number of parcels, their size and layout and distance from buildings as well as for location, markets and other community facilities and services.

Revenue Valuation.—The revenue valuation method, propounded by the Swiss Farmers' Union, is made possible by the use of about 600 farm account books which are kept from year to year and analyzed according to type of farming and size of farm. The revenue value is calculated by capitalizing the actual net returns derived from the farm. The ratio between gross farm income and revenue value is referred to as the "revenue-value" factor; that is, the revenue value per acre divided by the gross farm income per acre.

The use of this method eliminates the need of estimating expenses. The appraiser arrives at the revenue value for an individual farm by multiplying the estimated gross farm income by the "revenue-value factor" for the corresponding type of farming and size of farm. Adjustments for location, home use, and other natural and economic factors are made the same as in the calculation of the "basic value" discussed in a previous section of this article.

The farm being appraised is assumed to be operated by a typical manager and use is made of long-term average crop yields, livestock production and prices.

The Swiss appraisers assert that this method contributes to a satisfactory degree of uniformity in appraisal work in mixed farming areas where livestock is the main enterprise.

A Suggested Productivity Valuation Method.—The basic concept in the productivity valuation method pertains to the inherent productivity of the land and its revenue-producing capacity, as reflected in the long-term production and income records. It is assumed that the farm is operated under typical management and that crop and livestock programs are similar to those prevailing in the community.

In the remainder of this article an attempt will be made to explain some of the major points of a suggested productivity valuation method which incorporates some of the features of the four methods previously described.

This method is based on the capitalization of the average long-term net returns derived from the farm. The revenue-value factor, as a ratio between the revenue value per acre and gross farm income per acre, is computed by a central committee and made available to appraisers.

The appraiser having computed the typical and long-term gross farm income determines the revenue value factor to be applied for the same type of farming, major enterprise and size of farm. The revenue value is then obtained by multiplying the estimated gross farm income by the factor. The revenue value thus obtained is adjusted for such factors as location, improvements, roads and markets.

Use of the suggested method presupposes the availability of data on types of soil and their productivity, yields, and prices of farm products. This information can usually be obtained from soil survey reports, statistical publications, farm account books and farm business survey reports. For computation of the revenue value factor it is suggested that the data from the farm accounts be sorted out on a type-of-farming, major enterprise and size-of-farm basis. Data must be obtained from a sufficient number of farms in order to provide representative samples. Otherwise, as in the Dutch method, representative and typical farms would have to be selected in each area. The manner in which these data can be used to compute the revenue value factor is illustrated below:

Computation of the Revenue Value Factor

1.	Improved acres	130		
2.	Total gross farm income		$10,000	
3.	**Total gross farm income per acre**....			**$ 77**
4.	Less total expenses (operator's wages included)		$ 8,500	
5.	Net returns on total investment		$ 1,500	
6.	Less capital charge on non-real estate property		$ 800	
7.	Net returns on real estate		$ 700	
8.	Revenue value (capitalization at 5 per cent)		$14,000	
9.	**Revenue value per acre**			**$107**
10.	**Revenue value factor** (item 9 divided by item 3)			1·4

In the example given above, the revenue value is derived from the capitalization of the net returns on farm real estate. The revenue value per acre is then divided by the gross farm income per acre, resulting in the revenue value factor of 1·4.

To compute the revenue value of the farm to be appraised it is only necessary to multiply the computed gross farm income by the revenue value factor. For example, if the appraiser arrives at a gross farm income of $10,000, the unadjusted revenue value would be 1·4 x $10,000=$14,000. This value, obviously, would have to be adjusted with regard to special natural and economic conditions.

The foregoing comments are more in the nature of a suggestion offered for discussion and criticism than of a definite proposal. An appraisal is and will always remain essentially a matter of opinion. But, an opinion based on pertinent facts and offered by a competent and experienced appraiser is more reliable than an appraisal of a merely subjective type. The suggested method has the further advantage of being directly related to income, the major concern of any farm purchaser or owner.

FARMING IN THE RAINY RIVER AND DRYDEN DISTRICTS OF NORTHWESTERN ONTARIO

H. W. TREVOR

Basic data on land settlement in the Rainy River and Dryden districts were secured from records covering the 1950 crop year. These records were obtained from 135 full-time, 40 part-time, and 15 forest product farmers and six families who had their homes in a rural district but were not actually engaged in farming.

Two types of farms were analyzed as one group; the part-time farms with a considerable volume of agricultural production, and the full-time farms deriving a significant part of their income from outside sources. The tables presented in this article were prepared from data obtained on 101 full-time and 29 part-time farms in the Rainy River, and on 34 full-time and 11 part-time farms in the Dryden district.

Size of Farms.—The average farm of the Rainy River district had 100 improved and 292 total acres. Of all the farms in that area 15 per cent had less than 40 improved acres, 28 per cent had from 40 to 79, 26 per cent from 80 to 119, and 31 per cent had more than 119 improved acres. The average size of farm in the Dryden district consisted of 92 improved and 332 total acres. Eleven per cent of the farms had less than 40 improved acres, 47 per cent had from 40 to 79, 11 per cent from 80 to 119, and 31 per cent had more than 119 improved acres.

Capital Investment.—In both districts more than one-half of the farms had a total investment of less than $10,000; in the Rainy River district only five per cent, and in the Dryden district 11 per cent of the farms had an investment exceeding $20,000. On the average, the total investment approximated $11,000. In the Rainy River district 28 per cent of this amount was invested in land, 25 per cent in buildings, 28 per cent in equipment, and 19 per cent in livestock. The corresponding figures for the Dryden area were 25, 32, 27 and 16 per cent respectively.

Power Equipment.—Seventy-one per cent of the farms in the Rainy River valley had one tractor, eight per cent had more than one tractor, and 21 per cent operated without a tractor. Comparable figures for the Dryden area were 62, 9 and 29 per cent respectively.

Farms without a car or a truck represented 22 per cent of all farms in the Rainy River district and 27 per cent in the Dryden district. In the Rainy River valley only six per cent, and in the Dryden district 13 per cent of the farms had both a car and a truck.

Land Utilization.—About one-third of the farm land was improved. In the Rainy River district this equalled 48 per cent, and in the Dryden area 41 per cent of the total potentially arable land. On the average, waste land comprised about one-fifth of all farm land.

In the Rainy River district a larger proportion of the improved land was in forage and flax crops, and a smaller proportion in grains and grass seed than in the Dryden area.

The comparative pattern of land utilization in the two areas is shown in Table 1.

Livestock.—The livestock type of farming predominates in the two districts and dairy cattle constitute a major farm enterprise. In the Rainy River valley, 81 per cent of the farms studied reported sales of dairy products, 55 per cent reported sales of eggs, 51 per cent sold cattle as beef, 38 per cent sold hogs, and 15 per cent sold lambs. In the Dryden area, 57 per cent of the farms reported sales of dairy products, 67 per cent derived some income from poultry, 38 per cent sold cattle as beef, and 42 per cent reported sales of hogs.

Of the 130 farms in the Rainy River district, 113 had cows, 105 had poultry, 97 had pigs, 90 had horses and some others had feeder cattle or sheep. Of the 45 Dryden farms, 42 had cows, 40 had poultry, 34 had pigs, 32 had horses, and 27 had feeder cattle. The average number of different kinds of livestock per farm and also for farms recording that type of livestock is indicated in Table 2.

Receipts.—Receipts from the sale of livestock and livestock products were the most important source of revenue and comprised more than one-half of all cash receipts. In the Rainy River district livestock receipts made up 56 per cent, outside

Table 1.—Land Use on Farms, Rainy River and Dryden Districts, 1950

Kind of Crop	Rainy River (130 farms)	Dryden (45 farms)
	average number of acres per farm	
Grains	17·9	26·1
Flax	7·7	1·9
Forage crops	49·8	40·9
Clover and timothy seed	7·5	11·1
Other crops	0·8	1·0
Rotation pasture	3·6	3·6
Long term improved pasture	7·1	4·6
Summerfallow	3·6	0·8
Idle acreage	2·5	1·7
Total, improved	**100·5**	**91·7**
Unimproved pasture	6·4	3·9
Woods—pastured	55·5	63·8
—not pastured	63·5	106·9
New clearing	3·1	1·2
Waste	59·1	60·0
Yards	3·7	4·3
Total, unimproved	**191·3**	**240·1**
Total acreage	**291·8**	**331·8**
Total, potentially arable land	**210·8**	**222·0**

earnings 19 per cent and crop receipts 16 per cent of the total. The corresponding figures for the Dryden area were 54, 16 and 17 per cent respectively. The source of the various cash receipts is indicated in Table 3.

Non-cash income provided by the use of the farm dwelling and farm produce was estimated at $755 per farm in the Rainy River district and $851 per farm in the Dryden district.

Current Expenses.—Cash current expenses averaged $1,138 in the Rainy River and $1,265 in the Dryden district. In both areas the main items of expense were the operating costs of power equipment and purchased feeds. (Value of unpaid family labour was not included in these calculations.) Excluding the operator's personal labour, unpaid family labour was estimated at $645 in the Rainy River, and $491 in the Dryden district. The various sources of cash current expenses are recorded in Table 4.

Table 2.—Number of Different Kinds of Livestock on Farms, Rainy River and Dryden Districts 1950

Kind of Livestock	Rainy River (130 farms) Average Number		Dryden (45 farms) Average Number	
	Per farm	Per farm reporting	Per farm	Per farm reporting
Cows	5·3	6·1	4·3	4·8
Heifers (1 year and older)	2·7	4·0	1·8	3·0
Calves	3·9	5·0	2·9	4·0
Feeder cattle (1 year and older)	1·1	4·0	0·2	1·4
Bulls	0·3	1·0	0·2	1·0
Horses	1·6	2·3	1·4	2·0
Colts	0·1	1·2	....	....
Boars	0·1	1·0	0·1	1·0
Sows	0·4	1·3	0·4	2·0
Hogs	2·2	4·6	1·6	3·2
Rams	0·2	1·2	....	....
Ewes	4·4	28·4	....	....
Hens	42·3	56·0	45·2[a]	54·1

[a] Two exceptionally large flocks were excluded from the calculation of the average; inclusion of these two flocks would bring the average to 68·8 hens.

Table 3.—Cash Receipts on Farms, Rainy River and Dryden Districts, 1950

Source of Receipts	Rainy River (130 farms)	Dryden (45 farms)
	—dollars per farm—	
Grains	74	64
Flax	132	18
Hay	118	101
Other crops	90	264
All crops	**414**	**447**
Dairy	821	638
Poultry	121	410
Hogs	112	119
Beef	279	194
Sheep	85	...
Other livestock	22	27
All livestock	**1,440**	**1,388**
Custom work	57	36
Sale of woodlot produce	150	270
Outside earnings	482	407
Other	17	29
Total miscellaneous farm receipts	**706**	**742**
Total cash receipts	**2,560**	**2,577**

Financial Summary.—Labour earnings represent the total returns to the farm operator for his year's work and management after all cash and non-cash expenses have been deducted. These earnings averaged $1,048 per farm in the Rainy River district and $1,641 per farm in the Dryden district. Total cash and non-cash family income averaged $2,194 in the Rainy River district, and $2,668 in the Dryden district.

There was a great variation in labour earnings. They ranged from as low as minus $4,093 to as high as $6,651 per farm in the Rainy River district and from as low as minus $457 to as high as $4,990 in the Dryden district. Farms with a larger investment in livestock generally had higher labour earnings.

This is well illustrated by an examination of the earnings for the farms with less and those with more than 80 cultivated acres. In the Rainy River district the farms studied included 56 farms with less and 74 farms with more than 80 cultivated acres. Of the farms with less than 80 acres 43 had less than $2,000 invested in livestock and realized labour earnings averaging $1,010 per farm. The other 13 had an average livestock investment exceeding $2,000 and their labour earnings averaged $1,620.

Table 4.—Cash Current Expenses on Farms, Rainy River and Dryden Districts, 1950

—	Rainy River (130 farms)	Dryden (45 farms)
	—dollars per farm—	
Operating cost of car, truck and tractor	300	311
Feed	167	332
Hired custom work	134	149
Hired labour	118	115
Taxes	89	64
Seed	68	48
Freight and hauling	44	30
Machinery repairs	44	40
Hardware	34	42
Repairs to buildings	33	34
Fertilizer	20	33
Insurance	15	14
Disinfectants and medicine	14	14
Miscellaneous	58	39
Total	**1,138**	**1,265**

Table 5.—Financial Summary, 175 Farms, Rainy River and Dryden Districts, 1950

—	Rainy River (130 farms)	Dryden (45 farms)
	—dollars—	
Cash receipts	2,560	2,577
Inventory increases	1,168	1,368
Capital receipts	167	302
Total receipts	**3,895**	**4,247**
Current expenses	1,138	1,265
Inventory decreases	....	....
Capital expenditure	1,281	1,144
Unpaid family labour	645	491
Total expenses	**3,064**	**2,900**
Farm income	831	1,347
Interest on investment at 5 per cent	538	557
Labour income	293	790
Perquisites	755	851
Labour earnings	**1,048**	**1,641**

For the farms with more than 80 cultivated acres, on the other hand, although the same relationship prevailed, the income situation was much less favourable. The 32 farms with less than $2,000 invested in the livestock enterprise had average labour earnings of only $292 and those with an investment of over $2,000 had average earnings amounting to $1,493.

In the Dryden area there were 26 farms with less than 80 and 19 farms with more than 80 cultivated acres. In the first group, the 23 farms with less than $2,000 invested in the livestock enterprise had labour earnings averaging $1,342 per farm whereas the three farms with an investment exceeding $2,000 had earnings averaging $1,466 per farm. Of the farms with more than 80 cultivated acres the seven farms with an investment in livestock below $2,000 had labour earnings averaging $882 per farm and the 12 farms with an average investment exceeding $2,000 per farm had average earnings of $2,702 per farm. The small number of farms in three of the four Dryden groups may not be sufficiently large to warrant any conclusive remarks.

The size of the improved acreage had a more distinct relationship to labour earnings than may be judged from the foregoing figures and especially from the data relating to farms in the Rainy River area. In that district the late spring and the excessive midsummer precipitation of 1950 resulted in a large number of crop failures and low labour earnings especially on farms with a large acreage in cash crops. In the Dryden district, on the other hand, weather conditions had been more favourable and the size of the cultivated acreage had thus a more pronounced relationship to the size of the labour earnings. These earnings averaged $1,356 per

Table 6.—Distribution of Farms According to Labour Earnings, Rainy River and Dryden Districts, 1950

Labour Earnings	Rainy River (130 farms)	Dryden (45 farms)
	—per cent of all farms—	
Minus labour earnings	14	7
0 to $999	45	29
$1,000 to $1,999	23	33
$2,000 and more	18	31
Total	**100**	**100**

Table 7.—Average Yearly Gains in Net Worth, Farms in the Rainy River and Dryden Districts According to Period of Settlement

Period of Assessment	Rainy River District				Dryden District			
	Number of Farms	Yearly Gains in Net Worth			Number of Farms	Yearly Gains in Net Worth		
		From Farming	From Outside Sources	Total		From Farming	From Outside Sources	Total
	No.	—dollars—			No.	—dollars—		
Prior to 1920......	23	276	162	438	8	329	116	445
1920 to 1929.......	19	325	252	577	13	194	382	576
1930 to 1939.......	25	265	375	640	8	242	595	837
1940 to 1949.......	61	721	645	1,366	15	609	365	974
All farms.....	**128**[a]	**493**	**447**	**940**	**44**[b]	**369**	**366**	**735**

[a] Two records were excluded because of insufficient information.
[b] One record was excluded because of insufficient information.

farm for the 26 farms with less than 80 cultivated acres, $1,622 for the 14 farms which had from 80 to 159 acres and $3,179 for the five farms with more than 159 cultivated acres. A financial summary is presented in Table 5 and the distribution of farms according to labour earnings in Table 6.

Change in Net Worth.—Farmers attempt to better their economic position by increasing the value of their assets. They improve or enlarge their land acreage, erect better buildings or modernize the ones they already have, and add to or improve the quality of their investments in equipment, livestock or property other than farm property. The success achieved is reflected in the annual increments in net worth and, of course, in the increase in net worth over a period of years.

For purposes of analysis the total gain in net worth for each of the farms studied was divided by the number of years the farm had been operated. The analysis itself deals with annual and total gains in net worth and gains relating to farm and outside income.

Annual and total gains in net worth varied widely. On the Rainy River farms the total gains ranged from $9 to $44,504, and the average yearly gains from $2 to $4,333; and on the Dryden farms the total gains ranged from $792 to $30,865, and the yearly gains from $87 to $1,831. The average total gain in net worth was $10,504 per farm in the Rainy River valley, and $11,287 per farm in the Dryden district. The average yearly gains were $940 and $735 respectively. Gains from farming operations comprised roughly about one-half of the total gains. In the Rainy River district 18 per cent, and in the Dryden area 44 per cent of these gains were secured from the sale of woodlot products.

Because of the variations in economic conditions over the years, the analysis also bears on the period of settlement for various groups of farms. Table 7 records the average yearly gains in net worth on farms started prior to 1920, from 1920 to 1929, 1930 to 1939, and from 1940 to 1949.

Need of Drainage.—About 23 per cent of the farm operators in the Rainy River district stated that additional drainage outlets were urgently needed and 38 per cent said that they could benefit by some drainage improvement. There was no drainage problem in the Dryden district.

Forest Product Farms.—In both the Rainy River and Dryden districts there are settlers who depend on timbering as their major, or even their only source of income. These forest product farmers obtain very little income, if any, from the cultivation of the land. Their cleared land is either used for hay or neglected and reverting to scrubby bush.

Labour earnings on these farms averaged $969 per farm in the Rainy River and $985 per farm in the Dryden district.

Conclusion.—A large proportion of the land resources still remains untapped for agricultural production. Both districts could benefit by more full time farming. One of their main problems consists in developing a greater interest in farming, in building up their agriculture to a degree of efficiency and profitableness that will better counterbalance the attractiveness of other industries.

BINDING LIST APR 15 1953

Gov.Doc. Canada.Agriculture,Dept.of
Can
Ag The economic annalist.
Vol.20-22(1950-1952)

PLEASE DO NOT REMOVE
CARDS OR SLIPS FROM THIS POCKET

UNIVERSITY OF TORONTO LIBRARY

3 1761 11467633 1